Quantitative indicators of corporatism: a survey and assessment

Kenworthy, Lane

Veröffentlichungsversion / Published Version
Arbeitspapier / working paper

Zur Verfügung gestellt in Kooperation mit / provided in cooperation with:
SSG Sozialwissenschaften, USB Köln

Empfohlene Zitierung / Suggested Citation:
Kenworthy, L. (2000). *Quantitative indicators of corporatism: a survey and assessment.* (MPIfG Discussion Paper, 4). Köln: Max-Planck-Institut für Gesellschaftsforschung. https://hdl.handle.net/10419/43737

Quantitative Indicators of Corporatism: A Survey and Assessment

Lane Kenworthy

00 / 4

Max-Planck-Institut für Gesellschaftsforschung
Paulstrasse 3
50676 Köln
Germany

Telephone	0221 / 2767 -0
Fax	0221 / 2767 -555
E-Mail	info@mpi-fg-koeln.mpg.de
Home Page	http: / / www.mpi-fg-koeln.mpg.de

MPIfG Discussion Paper 00 / 4
ISSN 0944–2073
November 2000

Abstract

Corporatism has been one of the most heavily studied concepts in comparative political economy over the past two decades, and quantitative indicators of corporatism have played a central role in the corporatist literature. This paper offers a survey and assessment of 42 such indicators. The principal aims are to provide an inventory of existing indicators, to examine their relative trustworthiness and utility, and to assess the robustness of empirical findings on the effects of corporatism on macroeconomic performance and income distribution and redistribution. Among the more noteworthy conclusions I reach are the following: (1) While quantitative corporatism measures have improved substantially in recent years, substantial gaps remain. (2) There is little justification for continued use of time-invariant measures. (3) Composite corporatism measures are commonplace, yet their creators and users have yet to offer a compelling explication of how corporatist effects are generated in such a way that they are more accurately captured by aggregated indicators than by narrowly-targeted ones. (4) There is fairly strong indication that one or more aspects/types of corporatism were associated with nominal wage restraint, low inflation, low unemployment, and low income inequality during the 1970s and 1980s. However, the results vary markedly depending upon the particular indicator used, and there is little evidence to support the common presumption that corporatism's unemployment-reducing effect occurs via real wage restraint.

Zusammenfassung

Wenige Modelle der vergleichenden politischen Ökonomie sind über die vergangenen 20 Jahre so eingehend untersucht worden wie das des Korporatismus. In der einschlägigen Literatur spielen dabei quantitative Indikatoren eine zentrale Rolle. Für das vorliegende Discussion Paper sind 42 Indikatoren erhoben und untersucht worden. Ziel war es, sie auf ihre Brauchbarkeit und Verläßlichkeit hin zu überprüfen sowie herauszufinden, wie standfest empirische Untersuchungen über die Auswirkungen des Korporatismus auf makro-ökonomische Leistungsfähigkeit, Einkommensverteilung und -umverteilung sind. Zu den besonders erwähnenswerten Schlußfolgerungen dieses Discussion Papers gehören: (1) Trotz immer noch bestehender Mängel haben sich quantitative Koporatismusmaße in den letzten Jahren als stichhaltig erwiesen. (2) Die Anwendung konstanter Variablen ist nicht mehr sinnvoll. (3) Summarische Korporatismusindikatoren werden zwar oft verwendet, doch ihre Erfinder und Anwender bleiben eine einleuchtende Erklärung schuldig, warum korporatistische Effekte besser durch aggregierte Gesamtmaße als durch sachlich genauere Einzelindikatoren erklärt werden sollten. (4) Alles weist darauf hin, daß einige Aspekte oder Formen des Korporatismus mit Lohnzurückhaltung, niedriger Inflation, höherer Beschäftigung und weitgehender Einkommensgleichheit in den 70er und 80er Jahren korrelieren. Die Ergebnisse variieren jedoch stark, je nachdem, welcher Indikator zugrunde gelegt wurde, und wenig stützt die allgemeine Vermutung, daß der Korporatismus vor allem durch Lohnzurückhaltung die Arbeitslosigkeit mindert.

Contents

1 Introduction

After being "almost universally regarded as defunct" (Ferner and Hyman 1998: xii) in the early 1990s, corporatism is back in the limelight. Despite its genuine if sometimes overstated decline in perhaps its most celebrated national context, Sweden, corporatism's prominence and stature have rebounded considerably in recent years. Corporatist pacts dealing with issues such as wage growth and employment have played a key role in two countries commonly viewed as European economic success stories over the past decade – the Netherlands and Ireland. Similar pacts have been forged or renewed in Norway, Finland, Belgium, and Italy, while less explicit variants of corporatism continue largely unabated in nations such as Austria, Germany, and Switzerland. Not surprisingly, these developments have rejuvenated academic interest in the topic (e.g., Hassel and Ebbinghaus 2000; Pochet and Fajertag 1997; Regini 2000; Visser and Hemerijck 1997).

Quantitative measures of corporatism have played a central role in the corporatist literature since the early 1980s. There have been several dozen attempts to score or rank the 18 or so most affluent OECD countries on a corporatism scale, including a number of composite indexes which aggregate other scorings. This paper offers a survey and assessment of 42 quantitative corporatism indicators.

The paper has several aims. One is simply to provide an inventory of existing indicators, which have grown so numerous as to perhaps overwhelm even seasoned researchers in the field. Section 2 of the paper provides an overview of the 42 indicators, and each is described in detail in Appendix A. The coverage here is not fully exhaustive. I have, however, attempted to include what in my view are the most prominent and/or useful indicators in the literature. I make no attempt to add to the already long list of definitions of corporatism. Doing so seems fruitless – the literature is now far too varied, as two examples (picked somewhat at random) from recent studies will attest. One, by Franz Traxler (1999: 56), is quite brief: "Corporatism means that the state shares its public-order function with organized business and labor." The other, by Alan Siaroff (1999: 177–179) in the same journal and year, is so lengthy it cannot be reprinted here; it includes 22 elements, ranging from labor and business centralization to low industrial conflict to state activism to political consensus. Instead of offering a new definition of corporatism or selecting my preferred existing one, I consider quantitative indicators of anything that is explicitly or implicitly referred to by its creator or users as corporatism. All of the indicators I examine are available in a Microsoft Excel file, which can be downloaded from the web page of the Max Planck Institute for the Study of Societies (Cologne, Germany) at http://www. mpi-fg-koeln.mpg.de or from my homepage at http://www.emory.edu/SOC/lkenworthy.

The second aim is to examine the trustworthiness and utility of the various indictors. There has been considerable development in this field in recent years, with an array of new measures appearing. But are the newer indicators superior to earlier ones? If so, in what ways? And are some of the newer indicators preferable to others? In section 3 I discuss some characteristics useful indicators of corporatism should have and examine the degree to which existing measures have those characteristics. In section 4 I explore the correlations between the various indicators.

The third aim is to test the robustness of findings in this field. Like their counterparts in many other areas, students of corporatism have not always paid sufficient attention to the impact of indicator choice on empirical results. In section 5 of the paper I assess the relative utility of the indicators in accounting for cross-country differences in macroeconomic performance in the 1970s and 1980s. In section 6 I do the same for income distribution and redistribution.

2 An Overview of Existing Indicators

Developments in the quantification of corporatism have been shaped by developments in the corporatist literature's analytical focus. Early studies, from the mid-1970s to the early 1980s, were conducted primarily by scholars who were (at that time) interested in corporatism per se. Later studies, those since the mid-1980s or so, have tended to be by scholars interested specifically in corporatism's economic (and sometimes political) performance effects. This shift in emphasis generated a shift from general definitions of corporatism to a focus on income policies and wage setting. The most notable early quantitative measures of corporatism were those of Schmitter (1981) and Lehmbruch (1984), which focused on, respectively, the organization of interest groups and the participation of such groups in policy making. Measures developed beginning in the mid-1980s by, e.g., Cameron (1984), Bruno and Sachs (1985), and Calmfors and Driffill (1988) turned the focus toward centralization and concentration of unions and wage setting. Within the focus on wage setting, Soskice (1990) then instigated something of a turn toward measures of wage coordination.

Existing indicators of corporatism can be grouped into four categories according to their main focus: (1) interest group organization; (2) wage setting arrangements; (3) interest group participation in policy making; (4) political-economic consensus. A fifth category consists of composite (i.e., aggregated) measures. This section offers an overview of existing indicators in each of these categories.

2.1 Interest Group Organization

Philippe Schmitter, who instigated the modern renaissance of interest in corporatism in the mid-1970s (Schmitter 1974), conceptualized corporatism as a mode of interest group organization ("interest intermediation"). There are two chief dimensions to such organization: centralization and concentration. And there are two principal interest groups of concern: labor and business.

Union centralization refers to the authority that union confederations have over their members. This authority may vary, of course, depending on the issue or arena. There are two existing indicators of union centralization: one by David Cameron (1984) and the other by Schmitter (1981). Both are subjective, time-invariant measures. To these I here add a third indicator, utilizing data from the "Union Centralization among Advanced Industrial Societies" data set assembled by Miriam Golden, Michael Wallerstein, and Peter Lange (1997, henceforth "GWL"). This new measure is based on objective, time-varying information on the powers and capacities of the main union confederation in each country – specifically, whether or not the confederation has power to appoint affiliates, to veto wage agreements by affiliates, to veto strikes, and whether or not it has its own strike funds.

Union concentration, which is sometimes referred to as associational monopoly, has two elements: across confederations and within confederations. The former refers to the extent to which union members belong to a single confederation rather than being divided among multiple confederations. The latter refers to the extent to which the membership of union confederations is concentrated within a small number of affiliates rather than being spread out across a large number of affiliates. Schmitter (1981) and Cameron (1984) each provided subjective, time-invariant measures of overall union concentration in the early 1980s. More recently, objective, time-varying data for each of these two facets of concentration have been assembled by Golden, Wallerstein, and Lange (1997).

A third dimension of labor organization is union density – the share of employees who are union members. Because this is never treated by itself as a measure of corporatism, I do not include it among the indicators examined here. It is, however, sometimes used in composite corporatism indicators, so I include it in the data set (see Appendix B).

To my knowledge there is only one existing quantitative measure of *business centralization or concentration*, by Hicks and Kenworthy (1998). It is a subjective, time-varying measure of business organization, combining the degree of concentration among business confederations and the degree of centralized authority of confederations over their members. To this I here add a second measure, constructed

from several variables in the GWL data set. It is an indicator of employer centralization based on objective, time-varying data on the existence of a peak employer confederation and the powers and capacities of the confederation. The latter include the power of appointment of affiliates, veto over wage agreements, veto over lockouts, and having its own conflict funds.[1]

2.2 Wage Setting/Bargaining Arrangements

Wage setting or bargaining arrangements have always been prominent in the corporatism literature, as wage formation is one of the areas in which organized interest groups have been most extensively and regularly involved in decision making. Initially some researchers used union centralization and/or concentration as a proxy for wage arrangements, but many soon turned to creation and use of indicators of the structure of wage bargaining itself. Such indicators focus on either the centralization or the coordination of the wage formation process. All are (at least partly) subjective.

Cameron (1984) and Calmfors and Driffill (1988) each offered time-invariant measures of the degree of wage bargaining *centralization*. Cameron's measure is an index ranging from 0 to 1, paralleling his measures of union centralization and concentration; Calmfors and Driffill's is a rank-ordering. More recently an OECD (1997) study offered a wage centralization index ranging from 1 to 3, measured in the years 1980, 1990, and 1994. The GWL data set includes three time-varying measures: (1) an index of union confederation involvement in wage bargaining; (2) an index of government involvement in wage setting; (3) a summary index of the degree of wage setting centralization. Since centralization can result from either bargaining between union and employer confederations or from government involvement (participation in bargaining, imposition of a wage schedule or freeze, mediation, arbitration), or both, the first two of these three indicators are combined to yield the third. Among the various wage centralization indicators, the GWL summary centralization index is the only one that explicitly measures the centralization of wage *setting* by taking into account situations in which there is government-imposed centralization; others are measures of the centralization of wage *bargaining*. (For ease of explication, however, I use the terms setting and bargaining more or less interchangeably in later sections of this paper.) Torben Iversen (1998) has created a time-varying measure that incorporates both the level of bargaining and the share of workers covered at each bargaining level. The GWL and Iversen indicators take into account whether or not wage agreements

1 After creating this measure I discovered that a similar one has been created by Duane Swank and Cathie Jo Martin (2000).

reached at central or industry levels include sanctions, such as a peace obligation (which prohibits strikes), which limit the ability of lower-level bargainers to circumvent the agreement. Thus, for instance, the GWL summary centralization index has four categories: 1 = plant-level wage setting; 2 = industry-level wage setting; 3 = centralized wage setting without sanctions; 4 = centralized wage setting with sanctions. Franz Traxler and Bernhard Kittel (2000) instead create two distinct measures, separating the formal bargaining level from the existence of sanctions. One is an index of the degree of wage bargaining centralization that does not take sanctions into account. The other is a dichotomous measure of "bargaining governability," which refers to the presence or absence of such sanctions.

In an influential 1990 article, David Soskice (1990) argued that the focus of those interested in effects of wage setting/bargaining should be on *coordination* rather than centralization. Centralization is only one means, albeit an important one, of achieving wage coordination. Others include guidance of industry bargaining by a powerful, monopolistic union confederation (as in Austria), a high degree of union concentration plus extensive pattern-setting (as in Germany), and coordination by employer federations with limited union influence (as in Japan and Switzerland). Coordination was the focus of Crouch's (1985) earlier dichotomous indicator of wage bargaining arrangements, though he did not make explicit the points emphasized by Soskice. Soskice himself offered coordination scores, but for only 11 countries. The Soskice scores have been updated and extended to a larger set of countries by Layard, Nickell, and Jackman (1991; Layard and Nickell 1994; Nickell 1997) and by Hall and Franzese (1998). There are three time-varying indicators of wage coordination. One is an OECD measure, which is available only for 1980, 1990, and 1994. The second is my own (Kenworthy 2000), which is a revised and updated version of an earlier measure used in Hicks and Kenworthy (1998). These scores draw heavily on the GWL summary index of wage setting centralization for countries in which coordination is achieved primarily via centralization and on Soskice's logic for nations in which it is achieved in other ways. The third time-varying indicator is a categorical measure by Traxler and Kittel (2000), which identifies the *type* of wage coordination in each country without attempting to create a rank-ordering or scale.

Also relevant to wage arrangements is the share of the workforce that is covered by collective bargaining agreements. In some nations this figure is essentially the same as the share that belong to unions, but in others extension laws or practices make the coverage rate much higher than the unionization rate (Traxler 1996). Like union density, the coverage rate is never treated as an indicator of corporatism per se, but since it is very closely related I include it in the data set (see Appendix B).

2.3 Interest Group Participation in Policy Making

Although much of the focus in the corporatism literature has been on wage bargaining, many scholars have conceived of corporatism as participation by organized interest groups in various types of public policy making.[2] Surprisingly, however, to my knowledge only two attempts have been made to quantify this broader conception. Both focus on participation by one of the major interest groups, labor, in one type of policy arena, economic policy. Both are subjective.

The first indicator is Gerhard Lehmbruch's (1984) time-invariant measure of union participation in economic policy making, which includes but is not limited to wage setting. This follows from Lehmbruch's focus on policy concertation as the core of corporatism. The other is Hugh Compston's time-varying measure of union participation in economic policy making exclusive of wage setting. Compston excludes wage setting arrangements "because these represent government participation in union policy making rather than union participation in government policy making" (736).

Unfortunately, there is no existing indicator of business participation in policy making. The issue here is of course participation by *organized* business – i.e., employer confederations – rather than by individual firms.

2.4 Political-Economic Consensus

Some analysts consider political and/or economic consensus to be a key component of corporatism (e.g., Katzenstein 1985; Keman 1984; Schmidt 1982). This is obviously a tricky concept to operationalize. Although several composite indicators include consensus as an element, I am aware of only two indicators that focus on consensus alone: a dichotomous measure by McCallum (1983, 1986) and a three-category index by Paloheimo (1984). Both are time-invariant, and both rely heavily on strike rates.

2.5 Composite Measures

I include 13 composite measures here: from Alvarez, Garrett, and Lange (1991), Bruno and Sachs (1985), Cameron (1984), Hicks and Kenworthy (1998), Hicks and

2 In Schmitter's (1982: 262–263) early conceptualization, this was "corporatism 2" or "concertation," with "corporatism 1" referring to interest group organization.

Swank (1992), Keman (1984), Lehner (1988), Lijphart and Crepaz (1991), Schmidt (1982), Schmitter (1981), Swank (2000), Tarantelli (1986), and Western (1997). There are others, but these 13 seem to be a reasonably representative sample. Some are relatively narrow. Those of Cameron and Schmitter, for instance, are essentially just aggregations of their union centralization and concentration measures. Others, such as those of Bruno and Sachs, Hicks and Swank, and Schmidt, combine four or more elements. The Lijphart-Crepaz measure is an unabashedly atheoretical aggregation of a dozen previous measures.

3 What Characteristics Should Quantitative Indicators of Corporatism Have?

I suggest in this section that an ideal corporatism indicator would be: (1) based on careful scrutiny of extensive data, though in most instances relying in part on subjective judgment; (2) scored for all of the 18 countries commonly used in quantitative comparative research; (3) time-varying, with annual measurement; (4) scored for the years 1960 up to the very recent past; (5) a scale measure rather than a rank ordering; (6) narrowly-targeted rather than an aggregation of various elements. Only one of the 42 indicators meets all of these criteria, and very few meet most of them.

3.1 Subjective vs. Objective

Objective measures of political-economic institutions are almost always preferable, but they are frequently impossible to create. Government partisanship can be measured in a relatively objective fashion – as, e.g., the share of cabinet seats held by parties of the left (though definitions of "left" can certainly differ). But creating quantitative indicators for many other institutions, such as state structure or central bank independence, tends to require judgment. The same is true for most indicators of corporatism. The GWL measures of union concentration are one exception, and they represent a clear improvement over earlier subjective measures. But in scoring wage coordination or centralization, union participation in policy making, or consensus, an element of subjectivity is unavoidable. The two indicators of consensus partially escape subjectivity because they are based largely on strike frequency data. Yet judgment nonetheless enters in the decision about where to draw the lines between high and low categories. Moreover, by measuring consensus using what is presumably an effect of it, low strike fre-

quency, this type of measure loses some conceptual utility. (It is also worth noting that strike data are somewhat problematic due to distortions and context-dependent measurement problems; see Shalev 1978.)

Although virtually all corporatism indicators are subjective, they are not all equally valid. There is a substantial difference between scorings that are (by choice or necessity) somewhat impressionistic and those based on a wealth of detailed and reliable information. In this respect, recently developed indicators are likely to be superior to earlier ones. Information about interest group organization, wage setting arrangements, and participation by unions in policy making is much more extensive and readily available today than was the case a decade or two ago. Thus, the wage centralization indicators of GWL, Iversen, and Traxler-Kittel are almost certainly more accurate than those of Cameron or Calmfors-Driffill. The same is true of Compston's scores for union participation in economic policy making as compared to Lehmbruch's.

3.2 Coverage of Countries

There are 19 countries that have a population of at least 3 million, have a level of per capita GDP at least half that of the United States, and have been continuously democratic throughout the post-World War II period. One of these, Israel, is not a member of the OECD and thus lacks comparable data for many of the variables of interest in quantitative analysis. The other 18 comprise the nations commonly used in quantitative analyses involving corporatism: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom, and the United States.

Unfortunately, many of the existing indicators – 27 of the 42 assessed here – do not cover the full set of 18 countries. Ireland is the most frequently missing nation, followed by New Zealand. There are, of course, widely differing views about the scores some of these countries should be assigned on various subjective corporatism measures. But there is seldom a persuasive rationale for a priori exclusion of a country from the scoring. Lack of adequate data is certainly one reasonable justification, but that does not appear to have been the cause in most instances.

3.3 Constant vs. Time-Varying

It has frequently been argued by creators or users of quantitative corporatism indicators that corporatism, like many other institutions, is "sticky" over time and is thus appropriately treated as constant. For example, in an earlier article in which I used Cameron's index of union concentration to predict cross-country variation in inflation, I wrote (Kenworthy 1996: 505–506):

> Analyses of the relationship between labor organization and economic performance typically assume that the former is constant over time. Recent research suggests that this is a reasonable assumption. There has indeed been relatively little change in labor movement concentration in these 15 nations during the past several decades. Change has occurred in some countries, but developments have offset one another so that the overall degree of concentration has not shifted. In Sweden and the other Nordic nations, for instance, the share of union members accounted for by the largest confederation has declined in the 1980s; at the same time, the number of affiliates to the major confederations has decreased. I therefore follow the pattern in the literature of using a uniform labor organization index across the various time periods.

This was not an unreasonable argument to make, because the GWL data (which were not available at the time that article was written) suggest that union concentration has indeed been fairly stable over time in many countries. Yet it has not been completely stable. And some other key elements (or types) of corporatism, such as wage setting arrangements and union participation in policy making, have changed quite a bit over time in some countries.

Relatively few of the existing indicators of corporatism vary over time; only 18 of the 42 indicators assessed here do. There is no time-varying measure of consensus and only two such composite measures.[3] Of the 18 time-varying indicators, 14 are measured annually.

Given the availability of time-varying corporatism indicators, there is no longer much justification for creating or using measures that do not incorporate change over time. Several studies have found that the effects of corporatism appear to vary across different periods (e.g., Crepaz 1992; Kenworthy 1996; Kittel 1999). But if a time-invariant indicator of corporatism is used, it is impossible to know whether such a finding owes to changes in corporatist effects or rather to (unmeasured) changes in the degree of corporatism itself.

Time-invariant indicators are also suspect in terms of trustworthiness, as they are less likely than time-varying measures to be based on careful attention to fine

3 A third time-varying composite measure has recently been created by Pennings and Vergunst (2000). However, I do not have access to these data.

details of institutional arrangements such as corporatism. Such attention is necessary in the creation of time-varying scores, in order to know whether a change has occurred from one year to the next. Time-invariant indicators are more likely to be based on an overall "feel." Indeed, many time-invariant indicators appear to have been created as such precisely because lack of information rendered the assignment of scores for each individual year impossible. This is not inherently the case; it is certainly possible for time-varying scores to be based as much or even more on feel or speculation as time-invariant ones. But all else being equal, it seems reasonable to presume the superiority of those that vary over time in this respect.

3.4 Coverage of Years

If the effects of corporatism do change over time, and if researchers are to have some hope that their analyses may impact policy, it is vital that we be able to examine the very recent past. Unfortunately, at the time of this writing (July 2000), the most recent year for which any of the existing corporatist indicators is available is 1994. The lone exception to this is the Kenworthy measure of wage setting coordination, which goes through 1999. However, several improvements are on the horizon. Michael Wallerstein is planning to update the data for some of the GWL measures, and those data will be publicly available as soon as the update is completed. Also, although the Traxler-Kittel data on wage centralization and coordination only go up to 1990, the project from which those data are drawn – the Project on "Internationalization, Labor Relations, and Competitiveness," directed by Franz Traxler (henceforth "ILC") – has data for these and other related indicators through 1996. The full ILC data set will be made available for public use sometime after the publication of a book based on the data (Traxler, Blaschke, and Kittel forthcoming).

It is also worth noting that several of the time-varying corporatism indicators – those of Iversen, Traxler-Kittel, and Compston – begin only in the early 1970s. Given that OECD data for most measures of economic structure and performance begin in 1960, this limits analysis somewhat.

3.5 Level of Measurement

A number of corporatism indicators during the initial wave of quantification in the early 1980s were rank orderings, while more recent indicators have typically been scale measures. When treated as scale variables, as they frequently are in

statistical analyses, rank orderings have the potential disadvantage of artificially inflating the degree of variation between countries on the high and low ends. However, this is not generally a problem for corporatism studies, in which the interest is typically in the existence and direction of effect rather than its precise magnitude. More problematic for rankings is that they are difficult to keep consistent for a measure that varies over time. In this respect scale measures are clearly preferable.

There has been a strong preference in the literature for indicators that treat variations in corporatism as differences of degree rather than of type. Thus, all but four of the indicators included here are either scale or rank-ordered measures. Three of the four exceptions are dichotomous and therefore can be treated as scale measures with only two levels. The fourth is Traxler and Kittel's measure of wage coordination. This is a categorical (i.e., nominal) measure with six categories: inter-associational coordination, intra-associational coordination, pattern-setting, state-imposed coordination, state-sponsored coordination, and no coordination. It is useful to separate these alternative sources of wage coordination, and Traxler and Kittel provide scores for the modal value for each country in each year covered by the data. Yet they go further to offer a provocative argument that calls into question much of the past decade's research on the effects of wage coordination: "If there are qualitatively differing coordination forms, any attempt to construct an ordinal scale of bargaining coordination becomes pointless." This does not strike me as compelling, any more than it would to suggest that because there are different religions it is pointless to construct an ordinal or scale measure of religiosity. It is certainly not immediately obvious whether, for example, pattern-setting led by IG Metall in Germany amounts to more or less coordination than does centralized wage setting without a peace obligation in Finland. But to the extent that wage coordination is suspected to have real economic effects, it seems worth the effort to try to make such judgments, as Soskice (1990), Layard, Nickell, and Jackman (1991), the OECD (1997), Hall and Franzese (1998), and Kenworthy (2000) have done.

3.6 Composite vs. Narrow Measures

Composite indicators of corporatism are widely used in quantitative research. I examine 13 such measures here. Elements that have been aggregated to form these composite measures include, among others, union centralization, union concentration, union density, employer centralization, shop-floor autonomy, the presence of works councils, frequency of strikes, union participation in policy making, left party political strength, societal consensus, and commitment to a partnership ideology. Sometimes these measures are summed or averaged, some-

times they are combined using different weights, and in other instances the composite measure is based on the results of factor analysis.

There is an obvious logic to such aggregation. Most theoretical discussions and qualitative analyses of corporatism treat it as a multidimensional concept. In attempting to quantify corporatism while remaining true to the theoretical and qualitative literatures, it is therefore tempting to aggregate. The temptation is accentuated by the fact that the small number of cases – 18 or fewer – used in the typical cross-sectional regression analysis of corporatist effects allows for inclusion of very few independent variables. Furthermore, a number of the elements that tend to be combined are highly correlated with one another: countries with centralized unions tend to have centralized employers, strong left parties, low strike rates, and so on.

Yet the use of composite measures in quantitative analysis may hide more than it reveals. As Robert Flanagan (1999: 1167–1168) has noted: "The focus on a single aggregated measure may obscure the exact effect of common institutional factors producing the correlation and at the same time may suggest an influence on economic outcomes for some elements of the index that have no influence at all." Narrowly-targeted measures may therefore be preferable. Consider, for instance, the well-trod question of whether or not corporatism yields lower unemployment. There are at least three channels through which a straightforward effect (i.e., ignoring nonlinearities and interactions with other institutions such as government partisanship or central bank independence) of this type might occur:

1. Corporatism generates wage restraint, which yields lower unemployment;
2. Corporatism generates government commitment to low unemployment, and the resulting policy efforts are at least somewhat successful in achieving it;
3. Corporatism leads to less rent seeking, which yields a healthier overall economic climate, including lower unemployment.

A composite measure is unable to distinguish between these three channels, and may in fact be conceptually inappropriate for examining any of them. Instead, the first channel should be examined with an indicator of wage setting arrangements, the second with an indicator of union participation in economic policy making, and the third with indicators of labor and / or business organization.

Methodological constraints no longer necessitate the use of composite measures, if they ever did. The recent development of time-varying corporatism measures enables use of pooled cross-section time-series regression, which substantially increases the number of observations and thereby alleviates the need for hyperparsimony in the choice of explanatory variables. Because pooled regressions es-

timate coefficients that are constant across years or periods, they may ignore changes in effects over time (Kittel 1999). But this can be remedied by judicious use of interaction terms or analysis of individual years or periods.

Where corporatism serves merely as a control variable in analyses that focus on other aspects of the political economy, there seems little harm in utilizing a composite measure. But otherwise the preference, in my view, should be for narrowly-targeted indicators.

4 How Closely Do the Indicators Correlate with One Another?

How accurate are these indicators? This is in part a theoretical issue, but one way to get a partial answer is to see how closely they correlate with one another. Table 1a shows the correlations between all of the indicators included here except the Traxler-Kittel measure of wage coordination, which is categorical. For the indicators that vary over time I have used a period average over 1974–1989. Table 1b shows correlations among the time-varying indicators using annual data.

Among the interest group organization indicators, a number of findings are worth highlighting. First, the three union centralization measures correlate fairly closely with each other (.62 to .84). Second, by contrast, although the Cameron and Schmitter measures of union concentration are highly correlated with one another (.84), neither is very strongly correlated with either of the two objective GWL measures (.09 to .45). This casts doubt on the validity of the former. Second, concentration across union confederations (GWLCONC1) is weakly or negatively correlated with every other corporatism indicator. This is due largely to the existence of only a single main union confederation in several nations in which interest group organization is otherwise relatively minimal – Australia, the United Kingdom, and the United States. Fourth, the new time-varying measure of union centralization I have created based on the GWL data is very weakly correlated with both of the time-varying GWL measures of union concentration (.14 and .18). This contrasts with the moderate-to-strong correlations between the Cameron and Schmitter measures of union centralization and concentration (.50 to .77). It suggests that these two dimensions of labor organization may be less similar empirically than has heretofore been believed. Fifth, the two business organization indicators correlate strongly (.82), despite the fact that one is a measure of centralization alone while the other incorporates both centralization and concentration. Interestingly, however, the correlations between these measures of business organization and the time-varying measures of union centralization and

union concentration within confederations are weak to moderate (.34 to .57). That suggests only moderate support for the common presumption that business and labor organization tend to go hand in hand (e.g., Schmitter and Streeck 1999; Stephens 1979).

There are six true measures of wage centralization – if we exclude the GWL measures of confederation and government involvement, which are combined to form the GWL summary indicator, and the Traxler-Kittel measure of bargaining governability. If one desires a single measure of the level of wage setting, the GWL summary centralization index seems likely to be the most useful of the six. Unlike the Cameron, Calmfors-Driffill, and OECD wage centralization indicators, it is measured annually and thus incorporates changes in wage setting arrangements from year to year, which are not uncommon. Unlike the Traxler-Kittel centralization indicator, it takes into account the existence (or lack thereof) of a peace obligation, which surely affects the degree to which local bargaining alters wage agreements at the central or industry level. And unlike both the Traxler-Kittel and Iversen centralization indicators, it incorporates government-imposed wage schedules/freezes. One might reasonably argue that this latter feature makes the GWL measure less useful as an indicator of corporatism, since such government imposition does not involve participation by labor and/or business. But it surely makes it a more accurate indicator of the level of wage setting.

The Calmfors-Driffill wage centralization indicator has been by far the most commonly used in studies of corporatism's impact on economic performance. But its merits have been questioned (Traxler and Kittel 2000). It correlates relatively strongly with the Cameron, OECD, and Iversen measures but only moderately with the GWL and Traxler-Kittel measures. The most directly comparable indicator to Iversen's in terms of conceptual intent is the GWL measure of union confederation involvement in bargaining. Yet the two correlate at only .75. This is likely because the Iversen scores incorporate the share of workers covered at each bargaining level. In this respect it is the more precise of the two.

The six wage coordination indicators (the Traxler-Kittel measure is excluded because it is categorical) correlate fairly strongly with one another. In particular, the Soskice, OECD, Hall-Franzese, and Kenworthy indicators correlate with each other at .89 or better. This is not too surprising, as the latter three all draw heavily on Soskice (1990). Among these, the Kenworthy indicator has the advantage of being measured annually.

In general the wage centralization indicators are only moderately and sometimes very weakly correlated with the coordination indicators. For instance, the GWL centralization index correlates between .32 and .52 with the six coordination indi-

Table 1a Correlations between Corporatism Indicators

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1	SCHMCENT																																								
2	CAMUCENT	.84																																							
3	KENWUCENT	.74	.62																																						
4	SCHMCONC	.75	.77	.62																																					
5	CAMUCONC	.50	.59	.59	.84																																				
6	GWLCONC1	-.20	-.02	.14	.27	.17																																			
7	GWLCONC2	.60	.41	.18	.09	.45	-.53																																		
8	HKBUS	.72	.55	.52	.62	.61	-.37	.57																																	
9	KENWBCENT	.47	.55	.34	.45	.55	-.43	.54	.82																																
10	CAMCENT	.70	.89	.65	.65	.78	-.03	.33	.37	.56																															
11	CDCENT	.75	.82	.72	.80	.82	.00	.36	.63	.68	.81																														
12	OECDCENT	.65	.74	.38	.37	.61	-.15	.33	.35	.59	.80	.75																													
13	GWLCONF	.51	.57	.37	.52	.31	-.24	-.07	.40	.45	.55	.62	.65																												
14	GWLGOV	.63	.56	.29	.53	.32	.03	-.04	.09	.06	.49	.54	.48	.63																											
15	GWLCENT	.45	.59	.41	.36	.27	-.37	.17	.38	.47	.57	.59	.63	.79	.75																										
16	IVERCENT	.76	.79	.55	.80	.72	.03	.31	.58	.52	.74	.86	.75	.75	.71	.72																									
17	TKCENT	.26	.53	.33	.40	.33	-.19	.07	.32	.54	.66	.62	.66	.79	.63	.85	.74																								
18	TKBARGOV	.55	.46	.31	.61	.72	.13	.34	.33	.27	.47	.50	.41	.33	.38	.31	.65	.33																							
19	CRCHCOOR	.70	.66	.48	.63	.86	-.11	.69	.71	.66	.69	.70	.54	.31	.22	.34	.68	.40	.71																						
20	SOSKCOOR	.83	.56	.51	.57	.52	-.31	.65	.91	.52	.34	.52	.27	.37	.33	.38	.71	.37	.64	.64																					
21	LNJCOOR	.76	.66	.60	.72	.78	-.30	.53	.86	.76	.61	.86	.64	.58	.34	.52	.79	.44	.54	.83	.82																				
22	OECDCOOR	.70	.51	.41	.61	.56	-.13	.59	.82	.59	.34	.64	.41	.32	.24	.32	.71	.37	.35	.62	.91	.78																			
23	HFCOOR	.80	.66	.61	.65	.73	-.29	.65	.92	.73	.52	.74	.51	.47	.23	.46	.75	.35	.53	.82	.94	.94	.87																		
24	KENWCOOR	.85	.70	.53	.60	.60	-.26	.66	.81	.57	.45	.66	.46	.41	.41	.50	.76	.36	.42	.64	.97	.77	.91	.89																	
25	LEHMUP	.82	.87	.68	.52	.74	-.44	.76	.79	.77	.86	.76	.61	.39	.24	.46	.65	.40	.26	.79	.87	.75	.74	.79	.82																
26	COMPUP	.50	.72	.65	.44	.59	.15	.12	.50	.06	.78	.42	.41	.31	.23	.29	.60	.37	.56	.56	.77	.49	.48	.61	.69	.52															
27	MCCLCONS	.42	.61	.46	.46	.32	-.13	.72	.72	.49	.19	.37	.13	.07	-.12	.10	.39	.04	.40	.66	.90	.54	.70	.75	.70	.73	.42														
28	PALOCONS	.43	.72	.48	.48	.34	-.29	.83	.71	.52	.22	.47	.23	.09	-.05	.16	.42	-.03	.40	.65	.89	.64	.74	.80	.75	.79	.31	.92													
29	AGLCORP	.72	.82	.72	.76	.84	.02	.32	.52	.59	.95	.88	.80	.62	.53	.64	.80	.62	.54	.71	.41	.73	.42	.68	.58	.82	.75	.28	.33												
30	BSCORP	.68	.67	.64	.68	.78	-.09	.74	.77	.66	.62	.75	.43	.29	.21	.37	.68	.39	.59	.89	.74	.79	.72	.84	.74	.88	.51	.82	.81	.62											
31	CAMCORP	.71	.90	.78	.79	.83	.04	.23	.60	.61	.88	.87	.72	.64	.46	.58	.81	.55	.46	.65	.48	.78	.50	.73	.62	.77	.61	.35	.39	.98	.66										
32	HKCORP	.82	.66	.61	.64	.69	-.41	.63	.96	.82	.50	.76	.51	.50	.25	.51	.70	.36	.38	.76	.92	.94	.84	.96	.85	.83	.52	.67	.75	.66	.80	.72									
33	HSCORP	.74	.78	.69	.72	.75	-.11	.23	.60	.64	.72	.87	.74	.75	.50	.62	.80	.42	.52	.65	.47	.83	.46	.74	.59	.64	.42	.33	.43	.92	.61	.95	.73								
34	KEMNCORP	.79	.71	.71	.60	.72	-.21	.66	.75	.62	.59	.76	.55	.48	.29	.50	.76	.36	.64	.83	.86	.86	.72	.92	.80	.75	.68	.75	.82	.71	.88	.72	.83	.75							
35	LEHNCORP	.72	.61	.72	.37	.43	-.23	.71	.65	.45	.37	.41	.32	.28	.26	.36	.61	.29	.39	.57	.88	.53	.78	.75	.89	.80	.72	.77	.73	.46	.65	.43	.66	.37	.73						
36	LCCORP	.88	.84	.37	.65	.80	-.22	.71	.84	.72	.70	.79	.55	.43	.30	.47	.74	.37	.47	.86	.82	.86	.77	.91	.85	.95	.64	.77	.82	.77	.91	.79	.90	.75	.89	.75					
37	SMDTCORP	.80	.62	.53	.55	.59	-.15	.58	.74	.48	.38	.53	.37	.40	.21	.34	.69	.21	.53	.64	.92	.72	.80	.89	.88	.65	.69	.79	.81	.57	.69	.60	.77	.61	.87	.89	.79				
38	SCHMCORP	.83	.81	.69	.87	.93	.05	.40	.77	.50	.81	.85	.55	.58	.60	.42	.89	.39	.73	.81	.81	.85	.75	.86	.83	.76	.62	.57	.63	.82	.79	.86	.82	.83	.83	.67	.89	.83			
39	SWNKCORP	.55	.77	.62	.66	.57	-.13	.11	.50	.52	.77	.79	.75	.83	.68	.87	.85	.77	.43	.50	.44	.70	.41	.60	.56	.58	.56	.14	.18	.89	.51	.86	.63	.86	.63	.38	.62	.46	.67		
40	TARACORP	.63	.41	.45	.85	.68	.13	.52	.68	.32	.30	.58	.16	.18	.13	.02	.59	.11	.55	.66	.80	.68	.80	.78	.74	.57	.51	.72	.72	.35	.74	.49	.67	.44	.68	.67	.69	.79	.85	.26	
41	WESTCORP	.78	.72	.65	.79	.86	-.14	.57	.87	.77	.61	.85	.55	.42	.30	.45	.74	.34	.48	.79	.73	.90	.75	.89	.79	.79	.43	.61	.67	.78	.85	.83	.92	.78	.78	.54	.89	.69	.88	.65	.74

Note: N varies from 9 to 18 depending upon the indicators being correlated. For time-varying measures a period average over 1974–1989 is used. TKCOOR is not included because it is a categorical measure. For indicator descriptions see Appendix A.

Table 1b Correlations between Time-Varying Corporatism Indicators Using Annual Data

		1	2	3	4	5	6	7	8	9	10	11	12	13
1	KENWUCENT													
2	GWLCONC1	.22												
3	GWLCONC2	.02	-.51											
4	HKBUS	.53	-.28	.53										
5	KENWBCENT	.45	-.27	.41	.79									
6	GWLCONF	.52	-.19	-.04	.36	.44								
7	GWLGOV	.29	.01	.01	.00	.09	.54							
8	GWLCENT	.46	-.15	.23	.31	.46	.75	.72						
9	IVERCENT	.50	-.03	.33	.54	.47	.70	.52	.59					
10	TKCENT	.34	-.23	.12	.29	.53	.62	.40	.65	.68				
11	KENWCOOR	.46	-.17	.61	.68	.52	.44	.47	.62	.71	.38			
12	COMPUP	.51	.03	.23	.39	.09	.24	.25	.30	.51	.29	.54		
13	HKCORP	.61	-.28	.58	.93	.78	.48	.15	.44	.67	.35	.75	.44	
14	SWNKCORP	.66	-.05	.13	.50	.54	.76	.50	.74	.73	.70	.53	.44	.63

Note: N varies from 51 to 630 depending upon the indicators being correlated. TKCOOR is not included because it is a categorical measure. OECDCENT, OECDCOOR, and LNJCOOR are not included because they are scored in only a few years. For indicator descriptions see Appendix A.

cators. This suggests that these two types of measure are not interchangeable; it may matter a great deal in terms of empirical findings which of the two is used. Conceptually, centralization measures seem closer to the essence of what most analysts consider to be corporatism, but coordination seems more likely to be related to wage restraint and thus to macroeconomic performance outcomes (see, e.g., Flanagan 1999; Soskice 1990; Traxler and Kittel 2000).

As noted earlier there are only two indicators of union participation in policy making, by Lehmbruch and Compston. Given that the Compston measure varies over time and appears to be based on more careful scrutiny of policy making processes, the .52 correlation between them casts serious doubt on the validity of the Lehmbruch measure, which has been fairly widely used in the literature. Then again, the Lehmbruch indicator includes wage setting as one of the types of policy making in which unions may participate whereas the Compston measure excludes wage setting. This difference could conceivably account for the low correlation. The correlations between the Compston indicator and the measures of interest group organization and wage setting are not especially strong. They are stronger for the Lehmbruch indicator, probably because it includes wage setting. In contrast, the two indicators of economic consensus are highly correlated with each other. Interestingly, although they differ widely in the elements they aggregate, the composite indicators are generally strongly correlated with one another. Of the 78 correlations among the composite indicators, 46 are larger than .70 and only nine are below .50.

Finally, the correlations among the time-varying indicators based on annual data, shown in Table 1b, are generally consistent with those based on 1974–1989 period averages in Table 1a.

5 Effects on Macroeconomic Performance

Probably three-quarters of the empirical research on corporatism since the early 1980s has involved attempts to assess its effects on macroeconomic performance outcomes (for references see Flanagan 1999; Franzese 1999; Kenworthy 1996). One of the striking features of this literature is the general lack of attentiveness to the potential impact of indicator choice.[4] In this section I provide a preliminary assessment of the relative utility of the various corporatism indicators in accounting for cross-country variation in macroeconomic performance. Four performance indicators – change in nominal wages, inflation, change in real wages, and unemployment – are regressed on each of the corporatism indicators and a set of control variables in each of two time periods, 1974–1979 and 1980–1989. The variables are described in Appendixes A and C.

The predominant notion in the literature has been that corporatism yields lower inflation and/or unemployment by generating wage restraint. The general logic is relatively simple, though specific applications of it can be complex (see, e.g., Franzese 1999; Kenworthy 1996). Where unions are encompassing and/or wage setting is centralized/coordinated, externalities of high wage increases tend to be taken into account by union negotiators, which creates a strong incentive for wage moderation. In fragmented bargaining systems, by contrast, prisoners' dilemma-type incentives create pressure for wage militancy. It is somewhat stunning that to my knowledge only three studies have actually examined the relationship between corporatism and wage changes: Bruno and Sachs (1985), Kenworthy (1996), and Traxler and Kittel (2000). All others have looked only at the relationship between corporatism and unemployment/inflation and simply presumed that the hypothesized links between corporatism and wage restraint and between wage restraint and macroeconomic performance exist. I explore these links here. Inflation is most likely to be affected by increases in nominal wages, while unemployment is presumed to be a function of increases in real wages.

Much of the corporatist literature has focused on unemployment, and there are a number of other channels through which corporatism could affect this aspect of macroeconomic performance. First, centralized or coordinated wage bargaining may include a "political exchange" – government efforts to reduce unemployment in exchange for union wage restraint (Pizzorno 1978). If so, indicators of wage centralization or coordination (and also perhaps interest group organization, consensus, and composite corporatism indicators) may be associated with real wage moderation and low unemployment, but real wage restraint itself

4 I am only marginally less guilty of this than most others – see Kenworthy (1996); Hicks and Kenworthy (1998).

would not be the direct cause of low unemployment. Second, countries may be constrained (by, e.g., central banks or participation in a hard currency regime) to have low inflation. To ensure the wage restraint necessary to achieve this, nations with less centralized or coordinated wage setting may require higher levels of unemployment (Soskice 1990). If this is correct, indicators of corporatism may be unrelated to wage developments and inflation (neither of which would vary much across countries) but associated with lower unemployment. A third channel shifts the focus away from wage setting to union participation in economic policy making. It asserts that "trade union influence over economic policy leads to more effective policies against unemployment and therefore to lower unemployment than would otherwise be the case" (Compston 1997: 733; see also Boreham and Compston 1992). If this channel is accurate, we would expect indicators of union participation in policy making to be associated with low unemployment though not with real wage restraint. A fourth suggests that encompassing, organized interest groups reduce rent-seeking, thereby contributing to faster growth and lower unemployment (Olson 1982). If so, indicators of interest group organization should be related to low unemployment but not necessarily to real wage moderation. Finally, a fifth possibility is that consensus is a key to reducing joblessness – via, e.g., real wage restraint, more effective government policies, or less rent-seeking (McCallum 1986). If this is accurate, consensus indicators should be associated with lower unemployment and perhaps also real wage moderation.

In early corporatist studies it was common to assert that corporatism was a relevant factor in accounting for cross-national variation in macroeconomic performance in the 1960s, but recent analyses suggest that this was not the case until the mid-1970s (Crouch 1993; Flanagan 1999; Kenworthy 1996). Given that most of the corporatism indicators do not vary over time and that most of the time-varying indicators do not extend beyond the early 1990s, the most reasonable time period to use for the analyses here is 1974–1989. I break this into the two business cycles: 1974–1979 and 1980–1989. Aggregating data within business cycles averts non-comparability (of, e.g., unemployment rates) due to differing phases of business cycles and avoids confounding business cycle and other effects (Kenworthy 1995; Korpi 1985; Wolff 1996). The results for some of the indicators suggest that effects may have differed across these two time periods, which is the reason for examining them separately.

While most tests have assumed a linear relationship between corporatism and performance outcomes, others have proposed that corporatism's effects are hump-shaped (Calmfors and Driffill 1988) or interactive with institutions such as left government (Alvarez, Garrett, and Lange 1991), central bank independence (Hall and Franzese 1998), union density (Kittel 2000), or public sector union density (Garrett and Way 1999). However, the hump-shaped and left government interaction hypotheses have found little or no support in follow-up analyses

(Beck et al. 1993; Flanagan 1999; Hicks and Kenworthy 1998; Kenworthy 1996; Traxler and Kittel 2000). In any case, it is not possible to test a variety of alternative specifications here. Instead, I simply enter each corporatism indicator in a bivariate regression and then in a multivariate regression with each performance measure in each time period. The relationship in all of the regressions is presumed to be linear. (I do, however, examine the central bank independence interaction hypothesis; see below.) In the multivariate regressions I include four control variables that have been commonly used in the literature and for which there exists a strong theoretical rationale for expecting a link with inflation and unemployment: growth of real GDP, central bank independence, left party government, and trade. Given the imposition of uniformity and simplicity in model specification, the results of these analyses should be taken as merely suggestive.

The regressions are estimated using ordinary least squares (OLS). I also run regressions using annual data for the 10 time-varying indicators that are measured across a reasonable number of years (this excludes the GWL measure of union concentration within confederations and the OECD and Layard-Nickell-Jackman measures of union centralization and coordination) and that contain a nontrivial degree of year-to-year variation (this excludes the two business organization measures). These latter are estimated using random-effects generalized least squares (GLS). This technique helps to control for "unobserved heterogeneity" or "fixed effects" – a problem inherent to cross-sectional analyses, whereby apparent effects of a variable such as corporatism may actually be due to unmeasured country-specific characteristics such as culture (see Alderson and Nielson 1999). These regressions include dummy variables for each year in the time period except one; this focuses on the cross-sectional variation, consistent with the regressions using period averages. In principle, the analyses using annual data should yield more trustworthy estimates because they control for unobserved heterogeneity and because the larger number of observations reduces the likelihood of undue influence by outliers. On the other hand, a disadvantage of using annual data is that effects of institutions such as corporatism may lag, and by different lengths of time in different countries and years. Using period averages reduces the likelihood of misspecifying such lags.

The regression results are shown in Table 2. Consider first the findings for effects of the narrowly-targeted measures on nominal wage changes and inflation. Neither of the two union participation in policy making indicators fares well, but that is not surprising since there is no hypothesized link between this aspect of corporatism and wage restraint. Three of the interest group organization indicators perform impressively: Schmitter's union centralization index, the GWL index of concentration within union confederations, and the Hicks-Kenworthy business organization measure. The same is true for the two measures of economic consensus. By contrast, the wage centralization measures yield unimpressive results.

They produce a number of unexpected positively signed coefficients, including some that are statistically significant. This could be because wage centralization affects nominal wage changes and inflation in a nonlinear or interactive fashion. But the strong results for the wage coordination indicators seemingly lend support to theoretical arguments which claim that coordination matters more for wage developments than does centralization (Soskice 1990). One way to test this directly is by including both a centralization indicator and a coordination indicator in the same regression. The most suitable indicators for this purpose are the GWL centralization index (for reasons noted earlier) and the Kenworthy coordination index (because it is the only coordination indicator measured annually). The correlation between these two measures is only moderate – .50 using a period average for 1974–1989 and .62 using annual data (see Tables 1a and 1b) – so multicollinearity should not prohibit such an assessment. In regressions otherwise identical to those in Table 2 but with both of these indicators included, the coordination indicator is always negatively signed and almost always statistically significant, while the centralization indicator is always positively signed (results not shown here). This is true whether period averages or annual data are used. These findings support arguments for the empirical primacy of coordination rather than centralization with respect to nominal wage change and inflation outcomes.

Changes in nominal wages and inflation correlate positively and quite strongly with one another, as one might expect. Using period averages, the correlation is .93 for 1974–1979 and .95 for 1980–1989 (.93 and .96 using annual data). Yet does it make sense to presume, as does the wage push perspective that underlies the hypothesized link between corporatism and low inflation, that nominal wage changes affect inflation rather than the other way around? After all, empirical studies frequently find that wage demands are influenced by the expected rate of inflation (e.g., Mitchell 1980; Rubin 1986). Obviously there is a degree of reverse causality here, but the assumption nonetheless seems warranted. For one thing, workers and unions often do focus on nominal wages (Mitchell 1993). In addition, careful inspection of the time-series data for individual countries reveals that noteworthy shifts in the rate of nominal wage increase often precede, rather than follow, such shifts in inflation.

Let's turn now to real wage changes and unemployment. Only three of the 40 indicators – the GWL measures of union concentration across confederations, government involvement in wage setting, and wage setting centralization – yield statistically significant negative associations with real wage changes in the multivariate regressions. Interestingly, a number of the indicators are linked with *higher* rates of real wage increase. That is not necessarily a distressing result for workers in corporatist countries, of course, but it belies the common presumption that corporatism induces real wage restraint.

Table 2 Effects of Corporatism on Macroeconomic Performance: Regression Results for 1974–1979 and 1980–1989

	Nominal wage changes				Inflation				Real wage changes				Unemployment			
	1974–1979		1980–1989		1974–1979		1980–1989		1974–1979		1980–1989		1974–1979		1980–1989	
	Bi-variate	Multi-variate	Bi-variate	Multi-variate	Bi-variate	Multi-variate	Bivariate	Multi-variate	Bivariate	Multi-variate	Bi-variate	Multi-variate	Bi-variate	Multi-variate	Bi-variate	Multi-variate
SCHMCENT	– **	– **	– **	– **	– **	– ***	– **	– ***	+	+	–	+	– **	– *	– **	– *
CAMUCENT	–	–	–	–	–	–	–	–	+	+	–	+	– **	– *	–	– **
KENWUCENT	–	–	–	–	–	– *	+	–	+ **	+ **	– *	–	– *	–	–	– *
(annual data)	–	–	–	–	–	– **	+	–	+ **	+ *	– *	+	– *	– *	–	– ***
SCHMCONC	–	–	–	–	–	–	–	–	+	+	+	–	–	+	– *	–
CAMUCONC	– **	– *	–	–	– **	– **	–	–	–	+	–	+	– **	–	– **	– *
GWLCONC1	–	+	–	–	+	+	–	+	–	–	+	–	+	+	+	+
(annual data)	–	+	+	+	–	–	+	+	–	–	– *	– **	+	+	–	+
GWLCONC2	– ***	–	– **	– *	– ***	–	– **	– **	–	+	–	+	– **	– *	– **	– ***
HKBUS	–	– *	–	– **	– **	– **	– **	– **	+	+ *	+	+	– **	– **	– **	– **
KENWBCENT	–	–	–	–	–	–	–	–	+	+	–	+	– **	– *	– *	– *
CAMCENT	–	+	+	+ *	–	+	+	+	+	+	–	+ *	–	+	–	–
CDCENT	+	–	+	–	–	–	+	–	+	+ *	–	+	– *	–	– *	–
OECDCENT	+	+	+	+	+	–	+	+	+	+ **	–	+ *	–	+	–	+
GWLCONF	+ *	–	+ *	–	+	–	+ *	–	+	+	–	–	–	–	–	–
(annual data)	+ *	–	–	– *	+ *	–	+	+	+	+	– *	–	– ***	– **	–	–
GWLGOV	+	+	+	+	+	+	+	+	–	– *	–	–	+	+ *	+	+ *
(annual data)	+	+	– ***	– ***	+	+	+	+	–	–	– ***	– ***	+	+	+	+
GWLCENT	+ *	+	+	+	+ *	+	+ *	+	+	–	–	–	–	+	–	+
(annual data)	+ *	+	– ***	– ***	+ *	+	–	–	+	–	– ***	– ***	+	+	+ *	+
IVERCENT	–	–	–	–	+	–	–	–	–	–	–	–	–	–	– **	–
(annual data)	–	–	– ***	– ***	+ *	+ *	–	–	–	–	– **	–	– **	– **	+	+
TKCENT	+ *	+	+ **	+ **	+	+	+ **	+ **	+	+	+	+	+	+	–	+
(annual data)	+ *	+ *	–	–	+ *	+ *	+	+	+	+	– *	–	– **	– *	+	+
TKBARGOV	– **	– *	–	–	– **	– *	–	–	–	+	+	+	– **	–	– **	– *
CRCHCOOR	– ***	– *	– *	–	– ***	– **	– *	–	–	+	+	+ *	– **	– *	– **	– **
SOSKCOOR	–	– *	–	–	– **	– **	– *	–	+	+	+	–	– ***	– ***	– ***	–
LNJCOOR	– *	– *	–	– *	– **	– **	–	– **	+	+	+	+ *	– **	–	– ***	– **
OECDCOOR	– *	– *	– *	– **	– **	– **	– **	– ***	+	+	+	+	– **	– **	– **	– *
HFCOOR	– **	– **	– *	– **	– **	– ***	– *	– ***	–	+	+	+ *	– ***	– ***	– ***	– ***
KENWCOOR	–	–	– **	– ***	–	–	– **	– ***	+	+	+	+	– **	– *	– **	– ***
(annual data)	+	+	– **	– ***	+	+	–	– **	+	+	– *	+	–	–	–	–

LEHMUP	–	–	– **	–	– *	–	– *	–	+	+ **	–	+	– *	–	–	–
COMPUP	–	+	+	+ *	–	+	–	+	–	+	+	+	– *	–	– **	–
(annual data)	+	+	+	+ ***	–	–	+	+ **	–	+	+	+ **	+	+	+	– *
MCCLCONS	– ***	– ***	– ***	– ***	– ***	– ***	– ***	– ***	+	+	–	–	– ***	– ***	– ***	– ***
PALOCONS	– ***	– ***	– ***	– ***	– ***	– ***	– ***	– ***	–	+	–	+	– ***	– ***	– ***	– ***
AGLCORP	–	–	+	+	–	–	+	+	+	+	–	+ **	– *	–	–	– *
BSCORP	– **	– *	– **	– *	– ***	– **	– *	– **	+	+ *	–	–	– **	– **	– **	– **
CAMCORP	–	–	–	–	–	–	+	–	–	+	–	–	– *	–	–	– *
HKCORP	– *	– **	– *	– **	– **	– **	– *	– ***	+	+	+ *	+ *	– **	– **	– ***	– **
(annual data)	–	–	– *	– **	– **	– **	– *	– ***	+	+	+	+ **	– ***	– ***	– **	–***
HSCORP	–	– **	+	–	–	– **	+	– **	+	+	–	+ *	– **	–	– **	– **
KEMNCORP	– **	– ***	–	– **	– **	– ***	–	– ***	–	+	–	+	– ***	– ***	– ***	– ***
LEHNCORP	– *	– *	– *	– **	– *	– *	– **	– **	–	–	+	+	– ***	– ***	– ***	– ***
LCCORP	– **	– **	– **	– **	– **	– ***	– **	– ***	+	+ *	–	+	– **	– **	– **	– ***
SMDTCORP	– **	– ***	– *	– ***	– **	– ***	– *	– ***	–	+	+	+	– ***	– ***	– ***	– ***
SCHMCORP	–	– *	– *	– *	– *	– **	– *	– *	+	+	–	+	– **	–	– **	– *
SWNKCORP	+	–	+ *	+	+	–	+ **	+	+	+	–	+	–	+	–	–
(annual data)	–	–	+	+ *	+	+	+ ***	+ ***	+	–	– *	+	+ ***	+ **	+	–
TARACORP	– ***	– ***	– **	– **	– ***	– ***	– ***	– ***	+	+	+	–	– **	– ***	– ***	– ***
WESTCORP	– *	– **	– *	– *	– **	– ***	– *	– **	+	+	–	+	– **	– *	– **	– **

Note: Unstandardized OLS regression coefficients. For time-varying indicators, period averages are used. The coefficients for regressions using annual data are random-effects GLS estimates; dummy variables are included for each year except one. Control variables included in the multivariate regressions are growth of real GDP, central bank independence, left party government, and trade. An average for the previous two years is used for the growth and left government control variables in the regressions using annual data. TKCOOR is not included because it is a categorical measure. For variable descriptions see Appendixes A and C.

* = $p < .10$
** = $p < .05$
*** = $p < .01$ (one-tailed tests)

For unemployment, about two-thirds of the narrowly-targeted measures yield negatively signed and statistically significant multivariate coefficients in at least one of the two time periods. Yet the three indicators that are associated with real wage restraint are not among this group. This could be because the impact of corporatism on real wage developments depends on monetary policy (Franzese 1999; Hall and Franzese 1998; Iversen 1998), but regressions using interactions between wage centralization or coordination and central bank independence yielded no improvement in the results (not shown here). How should we interpret this? Evidently, to the extent that corporatism lowers unemployment, it does so via a mechanism other than real wage moderation. Indeed, we should be skeptical about the purported link between real wage increases and unemployment itself. The correlation between these two variables, using period averages (to avoid misspecification of lags), is .34 for 1974–1979 and –.44 for 1980–1989. The latter correlation suggests, paradoxically, that nations with faster growth of real wages enjoy lower unemployment. It might be thought that the association is with *change* in unemployment, rather than with the level of unemployment. Yet the correlation between change in real wages and change in the unemployment rate is –.40 for 1974–1979 and –.43 for 1980–1989.[5] Theoretically, the link should be between change in real unit labor costs (which adjust wage changes for changes in productivity) and change in unemployment.[6] But these correlations are no more supportive: .04 for 1974–1979 and –.33 for 1980–1989 (–.24 and –.48 for the level of unemployment). Multivariate analyses not shown here yield similar results. These findings contradict the central assumption underlying much of the research that has investigated the relationship between corporatism and unemployment.

What, then, is the link between corporatism and low unemployment? The results here suggest four possibilities, each mentioned earlier:

1. All countries may aim for low inflation, but nations with less coordinated wage setting may require higher levels of unemployment in order to secure the requisite wage restraint. However, this notion seems to be contradicted by the substantial cross-country diversity in inflation rates in the 1970s and 1980s. It also is somewhat difficult to square with the finding in Table 2 that several of the wage coordination indicators are associated with both low unemployment *and* low inflation.

5 I use a percentage change measure (rather than a difference measure) for unemployment, consistent with that for wages.

6 The regressions for real wage changes in Table 2 are in effect assessing real unit labor cost changes, since growth of real GDP is included as a regressor.

2. The result for the Compston union participation in policy making indicator in the 1980s multivariate regression using annual data suggest some support for the notion that if such a relationship exists, it is at least in part a function of corporatism's impact on government policy choices.
3. The results for what are perhaps the four best indicators of interest group organization – the Kenworthy measure of union centralization, the GWL measure of concentration within union confederations, and the two indicators of business organization – suggest that interest group encompassingness may be conducive to low unemployment via reduced rent-seeking.
4. Finally, economic consensus might reduce joblessness either by spurring development of effective employment policies or by reducing rent-seeking activity.

A number of the composite measures yield strikingly impressive results for all of the performance measures other than real wage changes. Very few of the narrowly-targeted measures of interest group organization, wage setting arrangements, or union participation in policy making appear to be as consistently linked to low nominal wage increases, low inflation, and low unemployment as are, e.g., the Bruno-Sachs, Hicks-Kenworthy, Keman, Lijphart-Crepaz, Schmidt, and Tarantelli aggregated indicators. It might therefore seem tempting to conclude that what really matters in determining macroeconomic performance is the corporatist "gestalt" – the combination of elements that fit together, and in so doing constitute "more than the sum of the parts" – rather than any single element alone. But without a clear elaboration of the precise mechanism(s) through which such effects are generated, it is reasonable to be skeptical about such a claim. None of the creators of the six composite indicators just mentioned offers such an elaboration. I am not arguing that the notion of a corporatist "gestalt" which is usefully measured via a composite indicator is inherently faulty – merely that the case for such has yet to be effectively made.

One form of the "gestalt" conceptualization is the notion that the effectiveness of a particular element of corporatism is conditional on the presence of one or more other elements. For example, one might argue that wage centralization or coordination is unlikely to yield wage moderation unless unions participate in other areas of policy making, because otherwise union negotiators will not trust that political exchanges will be honored. But this type of hypothesis is best tested by including these two elements – wage setting arrangements and union participation in policy making – as *separate, interacted* variables in regression analyses, rather than by combining them into a single composite indicator.

Finally, the results of these regressions underscore the sensitivity of findings to the choice of corporatism measure. A host of studies have concluded that corpo-

ratism has been conducive to good macroeconomic performance – at least in the 1970s and/or 1980s – and a number of the indicators examined here suggest support for that view. But some do not. Other analyses, most notably the 1997 OECD study (OECD 1997; see also Smith 1992, 2000; Therborn 1987), conclude that corporatism is in fact unrelated to inflation and unemployment outcomes. The findings here for the OECD wage centralization indicator are consistent with this view, but those for the OECD coordination indicator are not. These types of inconsistencies highlight the need for more careful attention in empirical studies to the impact of indicator choice.

6 Effects on Income Distribution and Redistribution

Research in political economy has tended to focus on two types of economic outcomes:

1. aspects of macroeconomic performance such as unemployment, inflation, and growth;
2. the distribution and redistribution of income. While the bulk of research on corporatism's effects has dealt with the former, a number of studies suggest that its effects may be no less important, and perhaps moreso, for the latter.

There is good reason to suspect a link between corporatist wage setting and low pay inequality (Iversen 1999; OECD 1997; Rowthorn 1992; Rueda and Pontusson 2000; Teullings and Hartog 1998; Wallerstein 1999). Unions tend to prefer smaller pay differentials, and centralized or coordinated bargaining increases unions' leverage vis-à-vis employers in seeking to achieve this aim. It may also accentuate the preference for low pay differentials: since the wages for a large share of the workforce are set simultaneously and collectively, differentials are more transparent. Furthermore, low pay inequality may be one thing that unions request from employers in exchange for pay restraint.

There is also reason to expect a link between corporatism and government redistributive efforts (Hicks and Swank 1992; Hicks 1999, ch. 6; Hicks and Kenworthy 1998; Swank and Martin 2000). The causal mechanism may run through wage setting and/or union participation in policy making. Like government efforts to reduce unemployment, more generous redistributive programs may be requested by unions in a political exchange for wage moderation. Or they may be a product of enhanced labor influence on policy stemming from regularized participation by unions in the policy making process (apart from participation in centralized or coordinated wage setting).

To examine the relative merits of the corporatism indicators in accounting for cross-country variation in pay inequality and in government redistribution, I run sets of regressions similar to those used above for macroeconomic performance. Reliable and cross-nationally comparable data on earnings inequality are limited to the 1980s for most countries, so I confine the analyses to the 1980–1989 period. Even this is a bit of a stretch for a few countries; for Ireland and Switzerland, for instance, the earliest year available is 1991. Following Wallerstein (2000) and Rueda and Pontusson (2000), the earnings inequality measure I use is the 90/10 ratio. In the multivariate regressions I add four control variables, which one or both of these two studies has found to be influential: left party government, trade, government employment, and union wage coverage. Redistribution is measured using government transfers as a share of GDP. The control variables included in these regressions are left party government, trade, the proportion of the population of retirement age (65 years and over), and the unemployment rate (see Hicks 1999; Hicks and Kenworthy 1998; Huber, Ragin, and Stephens 1993; Iversen and Cusack 2000). Because data on union wage coverage are not available for Ireland, it is not included in the analyses for earnings inequality. The same is true for New Zealand in the government redistribution analyses.

The regression results are shown in Table 3. The findings generally support those of recent studies which suggest an inverse association between corporatism and earnings inequality. Of the 41 indicators tested, 25 are negatively signed and statistically significant in the multivariate regressions. Theoretically, there is no particular reason to expect an effect of union participation in policy making on the distribution of earnings, and none is indicated here. Most theoretical arguments have focused on wage centralization as the aspect of corporatism that is conducive to low levels of pay inequality. Yet several of the centralization measures are not significant in the multivariate regressions, while several indicators of interest group organization, wage coordination, and consensus as well as some of the composite measures yield statistically significant results. This seems worthy of further exploration. What happens if the GWL centralization and the Kenworthy coordination indicators are again entered in the same regression? In this instance the centralization measure appears to be the better predictor. Both variables are negatively signed, but the centralization measure easily reaches statistical significance while the coordination measure is not significant in the bivariate regression and significant at only the .10 level in the multivariate regression. Still, the latter result suggests that wage coordination through means other than centralization may contribute to wage equalization.

For government redistribution the findings are somewhat less supportive of the hypothesis of corporatist effects. Only 12 of the 41 indicators yield statistically significant coefficients with the expected positive sign in the multivariate regressions, and 8 of those 12 are significant only at the lenient .10 level. Of the two indica-

Table 3 Effects of Corporatism on Income Distribution and Redistribution: Regression Results for 1980–1989

	Earnings inequality: 90/10 ratio		Government transfers: % of GDP		Income inequality (posttax, posttransfer): 90/10 ratio	
	1980–1989		1980–1989		circa 1991	
	Bivariate	Multivariate	Bivariate	Multivariate	Bivariate	Multivariate
SCHMCENT	– **	–	+ **	+ ***	– ***	–
CAMUCENT	– **	– *	+ **	–	– ***	–
KENWUCENT	–	–	+ *	+	– **	–
SCHMCONC	–	–	+	–	– **	–
CAMUCONC	– *	–	+	–	– ***	– *
GWLCONC1	+ **	+ *	– *	– *	+ **	+ **
GWLCONC2	– **	– **	+ **	+ *	– ***	– ***
HKBUS	– **	– **	+	+ *	– ***	– ***
KENWBCENT	– ***	– **	+	+	– ***	– ***
CAMCENT	– **	–	+ *	–	– ***	–
CDCENT	– **	–	–	–	– ***	– *
OECDCENT	– ***	– *	–	–	– ***	–
GWLCONF	– ***	– *	+	–	– **	–
GWLGOV	– ***	–	+ *	–	– **	+
GWLCENT	– ***	– ***	+ *	+	– ***	–
IVERCENT	– **	– **	+	–	– ***	–
TKCENT	– **	– **	+	+	– **	–
TKBARGOV	–	–	–	–	– ***	– **
CRCHCOOR	– **	– *	+	+	– ***	– ***
SOSKCOOR	–	– *	+	+	– ***	– ***
LNJCOOR	– ***	– **	+	+	– ***	– ***
OECDCOOR	– **	– *	+	+ *	– ***	– **
HFCOOR	– ***	– **	+	+ *	– ***	– ***
KENWCOOR	– ***	– **	+	+ *	– ***	– **
LEHMUP	– **	–	+ *	+ *	– ***	– **
COMPUP	–	–	+ *	–	– *	–
MCCLCONS	–	– **	+	+	– *	– **
PALOCONS	– **	– **	+ **	+ ***	– ***	– **
AGLCORP	– ***	– *	+ *	– **	– ***	–
BSCORP	– **	– *	+	+	– ***	– ***
CAMCORP	– **	–	+	+	– ***	–
HKCORP	– ***	– **	+	+ **	– ***	– ***
HSCORP	– ***	– *	+	+	– ***	–
KEMNCORP	– ***	– ***	–	+	– ***	– ***
LEHNCORP	– **	– ***	+	–	– **	– *
LCCORP	– ***	– **	+	+ **	– ***	– ***
SMDTCORP	– **	– ***	–	+ *	– ***	– **
SCHMCORP	– *	– *	+	+	– ***	– *
SWNKCORP	– ***	– ***	+	–	– ***	–
TARACORP	–	–	+	+ *	– *	– **
WESTCORP	– ***	–	+	+	– ***	– ***

Note: Unstandardized OLS regression coefficients. Control variables included in the multivariate regressions for earnings inequality and income inequality are: left party government, trade, government employment, and union wage coverage. For government transfers the control variables are: left party government, trade, aged, and unemployment. Missing data prevent inclusion of Ireland in the regressions for earnings inequality and income inequality and of New Zealand in the regressions for government transfers. TKCOOR is not included because it is a categorical measure. For variable descriptions see Appendixes A, B, and C.

* = $p < .10$

** = $p < .05$

*** = $p < .01$ (one-tailed tests)

tors of union participation in policy making, only the Lehmbruch measure, which is probably the less valid of the two, is suggestive of a positive effect. This casts doubt on the second of the hypothesized causal channels described above. The first channel focuses on political exchange. Surprisingly, none of the wage centralization measures is statistically significant in the multivariate regressions, while several of the coordination measures are. This suggests that political exchange may occur not only in contexts of centralized bargaining but also where coordination is achieved in other ways, such as via guidance by a highly concentrated union confederation (as in Austria) or pattern-setting (as in Denmark and Germany). Overall, then, these results leave us somewhat in the dark as to whether or not corporatism promotes redistribution and, if it does, what is the causal mechanism through which this effect occurs.

If corporatism reduces pay inequality (as seems to be the case) and/or increases government redistributive efforts (as may be the case), we would expect it to be associated with lower levels of posttax and posttransfer income inequality. Also included in Table 3 are results of regressions using 90/10 ratios from the best available data set on income distribution, the Luxembourg Income Study, as the dependent variable. These data are available for only a few years for most countries; I use figures for 1991. Pay inequality and government transfers are uncorrelated with one another (r = .01), which suggests that the distribution of earnings and government redistribution are quite distinct determinants of the posttax, posttransfer distribution of income (see also Burniaux et al. 1998; Kenworthy 1999). The regression results in the last two columns of Table 3 are about as one might expect, given the findings for earnings inequality and government transfers. All but one of the 41 indicators is negatively signed and statistically significant in the bivariate regressions, and 24 remain significant when the control variables are added. Interestingly, however, none of the wage centralization measures is significant in the multivariate equations. This again may be due to the fact that these measures are poor predictors of government redistribution, since they fail to predict political exchange in noncentralized but coordinated settings.

7 Conclusion

Quantitative research on corporatism is a relatively well-developed field – one of the most influential in comparative political economy over the past two decades. Yet in some respects it is still in its infancy. Theoretical development has advanced considerably in recent years, but a number of uncertainties and disagreements persist (Flanagan 1999; Franzese 1999). Since the mid-1990s, quantitative

indicators of corporatism have also improved a great deal. However, as we have seen, the indicators themselves and the ways in which they have been used are not without flaws.

The principal conclusions that emerge from this survey are as follows. I begin with the indicators themselves and then turn to corporatism's effects.

1. Indicators of corporatism abound. Given that there are various elements or types of corporatism and that each can be measured in different ways, this should be viewed in a positive light. The chief potential ill effect of such a proliferation of measures is chaos in the field. One of the aims of this study has been to help bring some order to it.

2. Interest group organization, wage setting arrangements, interest group participation in policy making, and political-economic consensus are certainly the principal aspects or types of corporatism as it is commonly conceptualized. In this respect the existing set of indicators is adequate in its overall scope. Yet a few noteworthy gaps remain. One is the lack of objective measures of concentration across and within employer confederations. A second is the lack of a measure of participation in policy making by organized business. A third is the lack of a time-varying measure of consensus. A fourth is the lack of indicators of sub-national corporatism. Paradoxically, as national economies become more closely integrated, sub-national (regional and/or local) economic institutions may come to play a more prominent and important role in determining economic outcomes (Streeck and Schmitter 1991). The early corporatist literature paid a good deal of attention to "mesocorporatism" (Cawson 1985), but there has been little effort to construct quantitative indicators of corporatist arrangements at the sub-national level (for one attempt see Leicht and Jenkins 1998).

3. The relatively weak correlations between recent time-varying indicators of interest group organization, wage setting arrangements, and union participation in policy making and some of their time-invariant predecessors from the early corporatist literature cast doubt on the accuracy of the latter. Given the availability of time-varying indicators for most aspects of corporatism, and given that most of these indicators suggest a nontrivial degree of change over time in a number of countries, there is now little rationale for using time-invariant measures in empirical analyses.

4. Unfortunately, many of the recently-created time-varying measures do not cover all 18 of the countries commonly used in quantitative research on the political economy of affluent democratic capitalism. Studies utilizing these measures therefore run the risk of selection bias. In addition, for time-varying measures to be of optimal use, it is imperative that they be regularly updated. That is not an

easy task with subjective indicators; it takes quite a bit of work. But it needs to be done.[7]

5. Many quantitative indicators of corporatism are composite measures. Yet creators and users of such measures have not, in my view, offered a compelling explication of how effects of corporatism are generated in such a way that they are more accurately captured by aggregated indicators than by narrowly-targeted ones.

6. Which of the narrowly-targeted corporatism indicators would I recommend for use in empirical research? Among the three indicators of union centralization, the new one I have created here seems preferable as it is based on the reliable GWL data and varies over time. The same is true for the two GWL measures of union concentration. The two measures of business organization seem of comparable quality; the choice of which to use should be guided by whether one prefers a measure that focuses on centralization alone or one that attempts to combine centralization and concentration. Of the nine indicators of wage centralization, the GWL summary index strikes me as the best, since it is time-varying and takes into account both government-imposed wage schedules/freezes and the existence (or lack thereof) of a peace obligation. For wage coordination, the only indicator that varies over time and is measured annually is the Kenworthy measure. Among the two indicators of union participation in policy making, the same holds for the Compston measure. Unfortunately, both of the existing indicators of consensus are time-invariant and are based largely on strike rates. As noted earlier, in my view these features make these measures of questionable utility.

What can we conclude about corporatism's effects on macroeconomic performance and income distribution and redistribution?

1. Coordinated wage setting appears to be (linearly) associated with nominal wage restraint and low inflation, at least in the 1980s. No such link is evident for indicators of wage centralization. This supports the contention that wage moderation is a function of coordination, whether that coordination is achieved via centralization or other means.

2. Corporatism appears to be conducive to low unemployment. However, there is virtually no evidence of a link between corporatism and real wage moderation, nor between real wage changes and (levels of or changes in) unemployment.

---

7 The same complaint can be rendered about other political-economic institutions. At the time of this writing, for instance, none of the commonly-used indicators of central bank independence extend beyond 1990. This is extremely problematic for anyone wishing to conduct analyses of the effects of central bank independence in the 1990s, since the degree of bank autonomy increased in a number of countries in that decade.

Thus, the channel(s) through which corporatism reduces unemployment, if it indeed does, is likely not the one presupposed in much of the theoretical and empirical literature.

3. Centralized wage setting and possibly also other aspects of corporatism seem clearly linked to smaller pay differentials. Whether or not corporatism heightens government redistributive efforts, and if so how, is less clear. Overall, there is fairly strong indication of an association between corporatism and low levels of posttax/posttransfer income inequality. Curiously, however, wage centralization is the one element or type of corporatism for which no such association is apparent.

4. Of the corporatism indicators examined here, the one that appears to be most consistently linked to strong macroeconomic performance, egalitarian income distribution, and generous redistribution is Paloheimo's measure of economic consensus. The McCallum consensus measure also performs very well in almost all of the regressions. Should we conclude, then, that the most beneficial aspect of corporatism is consensus? That depends in part upon what is meant by "consensus." The two consensus indicators are derived largely from strike rates, which leaves open the question whether consensus, to the extent it matters, is a function more of consensual attitudes or of institutions, such as centralized/coordinated wage setting or tripartite economic policy concertation, which discourage conflict. This issue seems worthy of further exploration.

5. Finally, given the plentitude of corporatism indicators and the fairly extensive variation in results in Tables 2 and 3 across indicators of the same aspect or type of corporatism, empirical studies need to be much more attentive to the effects of choice of measure. Perhaps making this relatively comprehensive set of quantitative indicators of corporatism easily accessible will facilitate that.

Appendix A 42 Quantitative Indicators of Corporatism

Interest Group Organization

Union Centralization

SCHMCENT
Schmitter union centralization
Rank ordering (I reversed the scores so that higher scores indicate greater centralization)
Time invariant
Time period covered: none specified
Missing countries: Australia, Japan, New Zealand
Source: Schmitter (1981: 294, "organizational centralization")

CAMUCENT
Cameron union centralization
Index ranging from 0 to 1
Time invariant
Time period covered: 1965–1980
Missing countries: New Zealand
Source: Cameron (1984: 165, "confederation power in collective bargaining")

KENWUCENT
Kenworthy union centralization
Index ranging from 0 to 4. Calculated as the number of the following powers / capacities that the main union confederation has: power of appointment of affiliates, veto over wage agreements by affiliates, veto over strikes, confederation has its own strike funds.
Varies over time – measured annually
Time period covered: 1950–1992
Missing countries: Ireland, New Zealand
Source: My construction from Golden, Wallerstein, and Lange (1997, variables = CON11, CON12, CON13, CON14)

Union Concentration

SCHMCONC
Schmitter union concentration
Rank ordering (I reversed the scores so that higher scores indicate greater centralization)
Time invariant
Time period covered: none specified
Missing countries: Australia, Japan, New Zealand
Source: Schmitter (1981: 294, "associational monopoly")

CAMUCONC
Cameron union concentration
Index ranging from 0 to 1
Time invariant
Time period covered: 1965–1980
Missing countries: New Zealand
Source: Cameron (1984: 165, "organizational unity of labor")

GWLCONC1
Golden-Wallerstein-Lange union concentration – across confederations
Herfindahl index of union concentration across union confederations. This indicates the extent to which union members belong to a single confederation rather than being divided among multiple confederations.
Varies over time – measured annually
Time period covered: 1950–1992
Missing countries: Ireland, New Zealand – also Belgium (selected years), Finland, (prior to 1968), Italy (prior to 1977), Netherlands (selected years)
Source: Golden, Wallerstein, and Lange (1997, variable = HERF). For helpful discussion see Wallerstein (1999).

GWLCONC2
Golden-Wallerstein-Lange union concentration – within confederations
Approximate Herfindahl index of union concentration for affiliates of the largest union confederation, using the membership of the three largest affiliates and the total number of affiliates. This indicates the extent to which the membership of the largest union confederation is concentrated within a small number of affiliates rather than being spread out across a large number of affiliates.
Varies over time – measured in 5-year intervals (1950, 1955, and so on)
Time period covered: 1950–1992
Missing countries: France, Ireland, New Zealand
Source: Golden, Wallerstein, and Lange (1997, variable = APPHRF1). For helpful discussion see Wallerstein (1999).

Business Centralization / Concentration

HKBUS
Hicks-Kenworthy business centralization / concentration
Index with 3 categories: 0 = fragmentation among business confederations and / or central confederation with little authority over members. 0.5 = central confederation with moderate authority and / or moderately contested by competitors. 1 = central confederation with substantial authority over members and weakly contested by competing confederations.
Varies over time (though in fact very little) – measured annually
Time period covered: 1960–1994
Missing countries: none
Source: Hicks and Kenworthy (1998: 1642)

KENWBCENT
Kenworthy business centralization
Index with 3 categories: 1 = no peak employer confederation. 2 = peak employer confederation exists but has none of the powers / resources listed under 3 below. 3 = peak employer confederation exists and has one or more of the following: power of appointment of affiliates, veto over wage agreements, veto over lockouts, confederation has its own conflict funds. The scoring for this index differs from that for union centralization (KENWUCENT above) for two reasons. First, while all of the countries have a peak union confederation, some do not have a counterpart business confederation. Second, there is little variation among countries that do have a peak business confederation in the number of powers / capacities held by the confederation.
Varies over time (though in fact very little) – measured annually
Time period covered: 1950–1992
Missing countries: Ireland, New Zealand
Source: My construction from Golden, Wallerstein, and Lange (1997, variables = EMCONV1, EMCONV2, EMCONV3, EMCONV4, EMCONV5)

Wage Setting / Bargaining Arrangements

Wage Setting / Bargaining Centralization

CAMCENT
Cameron wage bargaining centralization
Index ranging from 0 to 1
Time invariant
Time period covered: 1965–1980
Missing countries: New Zealand
Source: Cameron (1984: 165, “scope of collective bargaining”)

CDCENT
Calmfors-Driffill wage bargaining centralization
Rank ordering (I reversed the scores so that higher scores indicate greater centralization)
Time invariant
Time period covered: none specified
Missing countries: Ireland
Source: Calmfors and Driffill (1988: 18)

OECDCENT
OECD wage bargaining centralization
Index ranging from 1 to 3
Varies over time – measured in 1980, 1990, and 1994
Time period covered: 1980s and 1990s
Missing countries: Ireland
Source: OECD (1997: 71)

GWLCONF
Golden-Wallerstein-Lange wage bargaining centralization – by union confederation(s)
Index of involvement by union confederation(s) in wage setting, with 11 categories: 1 = confederation(s) uninvolved in wage setting in any of the subsequent ways; 2 = confederation(s) participates in talks or in formulation of demands for some affiliates; 3 = confederation(s) participates in talks or in formulation of demands for all affiliates; 4 = confederation(s) negotiates non-wage benefits; 5 = confederation(s) negotiates a part of the wage agreement, such as the cost-of-living adjustment; 6 = confederation(s) represents affiliates in mediation with centralized ratification; 7 = confederation(s) represents affiliates in arbitration; 8 = confederation(s) bargains for affiliates in industry-level negotiations; 9 = confederation(s) negotiates national wage agreement without peace obligation; 10 = confederation(s) negotiates national wage agreement with peace obligation; 11 = confederation(s) negotiates national wage agreement with limits on supplementary bargaining.
Varies over time – measured annually
Time period covered: 1950–1992
Missing countries: Ireland, New Zealand
Source: Golden, Wallerstein, and Lange (1997, variable = CONINV). For helpful discussion see Wallerstein (1999).

GWLGOV — Golden-Wallerstein-Lange wage setting centralization – by government
Index of government involvement in wage setting, with 15 categories: 1 = government uninvolved in wage setting; 2 = government establishes minimum wage(s); 3 = government extends collective agreements; 4 = government provides economic forecasts to bargaining partners; 5 = government recommends wage guidelines or norms; 6 = government and union negotiate wage guidelines; 7 = government imposes wage controls in selected industries; 8 = government imposes cost-of-living adjustment; 9 = formal tripartite agreement for national wage schedule without sanctions; 10 = formal tripartite agreement for national wage schedule with sanctions; 11 = government arbitrator imposes wage schedules without sanctions on unions; 12 = government arbitrator imposes national wage schedule with sanctions; 13 = government imposes national wage schedule with sanctions; 14 = formal tripartite agreement for national wage schedule with supplementary local bargaining prohibited; 15 = government imposes wage freeze and prohibits supplementary local bargaining.
Varies over time – measured annually
Time period covered: 1950–1992
Missing countries: Ireland, New Zealand
Source: Golden, Wallerstein, and Lange (1997, variable = GOVIN). For helpful discussion see Wallerstein (1999).

GWLCENT — Golden-Wallerstein-Lange wage setting centralization – summary indicator
Index with 4 categories: 1 = plant-level wage setting; 2 = industry-level wage setting; 3 = centralized wage setting without sanctions; 4 = centralized wage setting with sanctions.
Varies over time – measured annually
Time period covered: 1950–1992
Missing countries: Ireland, New Zealand
Source: Golden, Wallerstein, and Lange (1997, variable = BARGLEV). For helpful discussion see Wallerstein (1999).

IVERCENT — Iversen wage bargaining centralization
Range = 0 to 1. Calculated as $(w_j p^2_{ij})^{1/2}$, where w_j is the weight accorded to each bargaining level j (w_j=1) and p_{ij} is the share of workers covered by union (or federation) i at level j. (The square root is used simply to heighten somewhat the difference in scores between decentralized cases.) The index combines a measure of the prevalent level of bargaining (w_j) with a measure of union concentration (p_{ij}). There are 7 weight scores for bargaining level (each with a weight for centralized, intermediate, and decentralized, respectively), as follows: 0, 0.1, 0.9 = Plant- and firm-level bargaining predominates with some elements of industry-level bargaining. 0.1, 0, 0.9 = National associations and the government set nonenforceable targets for plant-level bargaining, but local organizations retain rights to bargain and to call strikes or lockouts. 0, 0.8, 0.2 = Industry-level organizations monopolize bargaining and strike/lockout decisions, and agreements are enforceable. Local bargaining is permitted subject to a peace clause. 0.1, 0.7, 0.2 = National associations and/or the government set nonenforceable targets for lower-level bargaining, but industry-level organizations retain rights to bargain enforceable agreements. Local bargaining is permitted subject to a peace clause. 0.5, 0.3, 0.2 = National associations negotiate central agreements with some capacity for enforceability, but industry-level organizations retain the right to bargain separate agreements without adherence to a peace clause. 0.8, 0, 0.2 = National associations monopolize bargaining, and agreements are enforceable. Local bargaining is permitted subject to a peace clause. 0.9, 0, 0.1 = National associations monopolize wage bargaining, and agreements are enforceable. Lower-level bargaining is banned.
Varies over time – measured annually
Time period covered: 1973–1993
Missing countries: Ireland, New Zealand
Source: Iversen (1998; data at http://www.people.fas.harvard.edu/~iversen/centralization.htm).

TKCENT — Traxler-Kittel wage bargaining centralization – bargaining level
Index with 12 categories (I reversed the scores so that higher scores indicate greater centralization): 1 = company, group-specific bargaining; 1.5 = company (all groups and group-specific bargaining equally important); 2 = company, all employees bargain jointly; 3 = combination of industry and company (group-specific); 3.5 = combination of industry and company (all groups and group-specific equally important); 4 = combination of industry and company (both all groups jointly); 5 = industry, group-specific bargaining (including occupational bargaining); 6 = industry, all employees bargain jointly; 7 = combination of central, industry, company (group-specific); 7.58 = combination of central, industry, company (central: all groups, all other levels group-specific; 8 = combination of interindustry, industry, and company; 9 = combination of interindustry and industry levels (group-specific); 10 = combination of interindustry and industry levels (all groups jointly); 11 = interindustry level whereby distinct employee groups bargain separately;

12 = interindustry (central) level, whereby all employee groups bargain jointly
Varies over time – measured in 3-to-5 year periods (1970–1973, 1974–1976, 1977–1979, 1980–1982, 1983–1985, 1986–1990)
Time period covered: 1970–1990
Missing countries: none
Source: Traxler and Kittel (2000, table 2)

TKBARGOV — Traxler-Kittel wage bargaining centralization – degree of bargaining governability
Dichotomous measure: 0 = no general or special peace obligation; 1 = legal enforceability of collective agreements in combination with either a general peace obligation or a special peace obligation on workplace representatives
Time invariant
Time period covered: 1970–1990
Missing countries: none
Source: Traxler and Kittel (2000, table 2)

Wage Setting Coordination

CRCHCOOR — Crouch wage setting coordination
Dichotomous measure: 0 = uncoordinated ("liberal"); 1 = coordinated ("neocorporatist"). Combines a measure of the prevalent level of wage bargaining with a measure of union concentration.
Time invariant
Time period covered: none specified
Missing countries: none
Source: Crouch (1985: 117)

SOSKCOOR — Soskice wage setting coordination
Index ranging from 0 to 5. United States and United Kingdom (0): zero employer and union coordination. France (1.5): tacit government coordination via public services and large nationalized industry sector. Italy (2): informal employer coordination via big employers, especially Fiat, IRI, and some regional employer associations; some help from union confederations, CGIL and CISL. Netherlands (3): strong employer organizations and informal coordination between giant companies; occasional differences between giants and industry organizations; medium union coordination. Germany (3.5): strong employer organizations, with considerable coordination across industries; medium-strong union coordination. Sweden (4): powerful centralized employers organization; generally strong coordination across industries, with some divergence of interests; centralized union confederations with some internal conflicts. Norway (4): as Sweden, with government playing an additional coordinating role. Switzerland (4): very powerful employer organizations, playing tacit coordinating role; unions weak and pliant. Austria (5): very powerful union, with centralized coordinating role; medium-strong employer organizations. Japan (5): very powerful tacit employer coordination across large companies, in more or less centralized way, with backing from industry employer organizations; weak and pliant unions.
Time invariant
Time period covered: mid-to-late 1980s
Missing countries: Australia, Belgium, Canada, Denmark, Finland, Ireland, New Zealand
Source: Soskice (1990: 55)

LNJCOOR — Layard-Nickell-Jackman wage setting coordination
Index ranging from 2 to 6. Sum of index for coordination by unions and index for coordination by employers, each of which ranges from 1 to 3.
Varies over time – measured in 1983 and 1989
Time period covered: 1983–1988 and 1989–1994
Missing countries: none
Source: Layard and Nickell (1994: 277); Nickell (1997: 63). Both draw on Layard, Nickell, and Jackman (1991, Annex 1.4).

OECDCOOR — OECD wage setting coordination
Index ranging from 1 to 3
Varies over time – measured in 1980, 1990, and 1994
Time period covered: 1980s and 1990s
Missing countries: Ireland
Source: OECD (1997: 71)

HFCOOR Hall-Franzese wage setting coordination
Index with 5 categories: 0, .25, .50, .75, 1.0
Time invariant
Time period covered: 1955–1990
Missing countries: none
Source: Hall and Franzese (1998; data at http://www-personal.umich.edu/~franzese/h&f_data.TXT, variable = HCWB). Uses scoring by Soskice (1990), extended to a wider range of countries based on information from Layard, Nickell, and Jackman (1991) and others (see Hall and Franzese 1998: 516).

KENWCOOR Kenworthy wage setting coordination
Index with 5 categories: 1 = fragmented wage bargaining, confined largely to individual firms or plants (Canada, Ireland 1960–1969 and 1981–1987, New Zealand since 1988, United Kingdom since 1980, United States). 2 = bargaining mainly at industry-level with little or no pattern-setting (France, Italy in most years, Australia since 1992). 3 = industry-level bargaining with reasonably strong pattern-setting but only moderate union concentration (Denmark in most years since 1981, Finland and Norway in a few years, Sweden since 1994); government wage arbitration (Australia prior to 1981, New Zealand prior to 1988). 4 = centralized bargaining by confederation(s) or government imposition of wage schedule/freeze – without a peace obligation (Belgium and Finland in most years, Ireland 1970–1980 and 1987–1993, Italy and Netherlands since 1993); high degree of union concentration and extensive, regularized pattern-setting (Germany); tacit coordination of bargaining by employer organizations with extensive pattern-setting (Switzerland). 5 = centralized bargaining by confederation(s) or government imposition of wage schedule/freeze – with a peace obligation (Denmark 1960–1980, Ireland since 1994, Norway in most years, Sweden 1960–1982); extremely high degree of union concentration and coordination of industry bargaining by confederation (Austria); extensive coordination of bargaining by employer organizations with extensive pattern-setting (Japan). This is a revision and extension of the wage coordination measure in Hicks and Kenworthy (1998: 1642). It draws heavily on Soskice (1990) and the Golden-Wallerstein-Lange summary index of wage setting centralization (GWLCENT above), supplemented by Iversen (1998: 500) and by country reports in the monthly *European Industrial Relations Review*, the European Industrial Relations Observatory website (http://www.eiro.eurofound.ie), Ferner and Hyman (1998), and other sources.
Varies over time – measured annually
Time period covered: 1960–1999
Missing countries: none
Source: Kenworthy (2000)

TKCOOR Traxler-Kittel wage setting coordination
Categorical classification of type of bargaining coordination: 1 = inter-associational coordination; 2 = intra-associational coordination; 3 = pattern-setting; 4 = state-imposed coordination; 5 = no coordination; 6 = state-sponsored coordination
Varies over time – measured in 3-to-5 year periods (1970–1973, 1974–1976, 1977–1979, 1980–1982, 1983–1985, 1986–1990)
Time period covered: 1970–1990
Missing countries: none
Source: Traxler and Kittel (2000, table 2)

Interest Group Participation in Policy Making

LEHMUP Lehmbruch union participation in economic policy making, including but not limited to wage setting
Index with 4 categories: 1 = pluralism; 2 = weak corporatism; 3 = medium corporatism; 4 = strong corporatism
Time invariant
Time period covered: none specified
Missing countries: France, Japan (these 2 countries are categorized as “concertation without labor”)
Source: Lehmbruch (1984: 66, “nature of union participation in public policy formation”)

COMPUP Compston union participation in economic policy making, excluding wage setting
Index with 11 categories: 0 = no participation; 1–3 = narrow consultation; 4–6 = broad consultation; 7–8 = narrow agreement; 9–10 = broad agreement
Varies over time – measured annually
Time period covered: 1970–1992
Missing countries: Australia, Canada, Japan, New Zealand, United States
Source: Compston (1997: 738)

Political-Economic Consensus

MCCLCONS McCallum economic consensus
Dichotomous measure: 0 = low consensus; 1 = high consensus. Based on strike levels and industrial relations institutions.
Time invariant
Time period covered: 1970s and 1980s
Missing countries: none
Source: McCallum (1986: 954)

PALOCONS Paloheimo economic consensus
Index with 3 categories: 1 = weak economic consensus; 2 = medium economic consensus; 3 = strong economic consensus. Based on working days lost due to strikes.
Time invariant
Time period covered: 1960s and 1970s
Missing countries: New Zealand
Source: Paloheimo (1984: 173)

Composite Corporatism Measures

AGLCORP Alvarez-Garrett-Lange composite corporatism measure
Calculated as the standardized score for (Cameron's union concentration x Cameron's union centralization x Cameron's wage setting centralization) + the standardized score for union density
Time invariant
Time period covered: none specified
Missing countries: Ireland, New Zealand, Switzerland
Source: Alvarez, Garrett, and Lange (1991, table A-1)

BSCORP Bruno-Sachs composite corporatism measure
Calculated as the sum of 0, .5, 1 scores for: union movement centralization, low shop-floor autonomy, employer coordination, and works councils
Time invariant
Time period covered: none specified
Missing countries: Ireland
Source: Bruno and Sachs (1985: 227)

CAMCORP Cameron composite corporatism measure
Calculated as [union concentration + (union centralization x union density)]
Time invariant
Time period covered: 1965–1980
Missing countries: Ireland
Source: Cameron (1984: 165–166, "organizational power of labor")

HKCORP Hicks-Kenworthy composite corporatism measure
Average of 0, .5, 1 scores for 7 types of economic cooperation: business centralization, wage setting coordination, cooperation between government and interest groups, tripartite neocorporatism (measured with two indicators: the Lijphart-Crepaz corporatism measure and the Hicks-Swank corporatism measure), cooperation between investors and firms, and cooperation between labor and management
Varies over time – measured annually
Time period covered: 1960–1994
Missing countries: none
Source: Hicks and Kenworthy (1998: 1642–1643)

HSCORP Hicks-Swank composite corporatism measure
Loadings from factor analysis of a variety of corporatist-type variables – particularly union strength, union centralization, class mobilization, and left-party government.
Time invariant
Time period covered: 1960
Missing countries: none
Source: Hicks and Swank (1992: 662, "left corporatism")

KEMNCORP Keman composite corporatism measure
Index with 5 categories, ranging from no corporatism to strong corporatism. The scoring is based on the degree to which there exists an ideology of social partnership and the degree to which the state plays an active part in shaping the system of industrial relations.
Time invariant

Time period covered: 1967–1981
Missing countries: none
Source: Keman (1984)

LEHNCORP — Lehner composite corporatism measure
Index with 5 categories: 1 = pluralism: fragmented and segmented interest intermediation. 2 = weak corporatism: institutionalized participation of organized labor in certain areas; narrow scope of collective bargaining. 3 = medium corporatism: sectoral participation; but broad scope of collective bargaining. 4 = strong corporatism: tripartite concertation with broad scope; comprehensive coordination of income policies; 5 = concordance: comprehensive coordination of the interactions of the private and the public sector.
Time invariant
Time period covered: 1960–1980
Missing countries: New Zealand
Source: Lehner (1988: 74)

LCCORP — Lijphart-Crepaz composite corporatism measure
Calculated as the average of standardized scores of 12 measures used in prior literature
Time invariant
Time period covered: none specified
Missing countries: none
Source: Lijphart and Crepaz (1991: 239)

SMDTCORP — Schmidt composite corporatism measure
Index with 3 categories: 1 = weak; 2 = medium; 3 = strong. "'Strong Corporatism' covers all those countries in which (a) the trade union leadership and the employers' associations are committed to a social partnership ideology; (b) the state, the trade unions, and the employers' associations cooperate in some economic policy areas; (c) the strike volume between 1974 and 1978 is very low; (d) no authoritarian incomes policy was enacted by the state" (257).
Time invariant.
Time period covered: 1974–1978
Missing countries: none
Source: Schmidt (1982: 245)

SCHMCORP — Schmitter composite corporatism measure
Rank ordering (I reversed the scores so that higher scores indicate more corporatist). Combines Schmitter's union centralization and concentration measures.
Time invariant
Time period covered: none specified
Missing countries: Australia, Japan, New Zealand
Source: Schmitter (1981: 294, "societal corporatism")

SWNKCORP — Swank composite corporatism measure
An index of standardized scores for union density, union confederation power (e.g., control over strike funds, involvement in wage bargaining), and the level of wage setting, with each of these three components weighted by a factor score loading
Varies over time – measured annually
Time period covered: 1962–1994
Missing countries: Ireland, New Zealand
Source: Swank (2000, using data from the GWL data set)

TARACORP — Tarantelli composite corporatism measure
Index ranging from 3 to 15, which is a sum of 1–5 scores for 3 dimensions: (1) the degree to which there is not only a high ideological and political consensus but also a high integration and cooperation of trade unions and employers' representatives with the political and economic machinery of the government; (2) the degree of centralization of wage setting; (3) the process of dispute settlement.
Time invariant
Time period covered: 1968–1983
Missing countries: Ireland, Switzerland
Source: Tarantelli (1986: 12–13, "degree of centralization of the industrial relations system")

WESTCORP — Western composite corporatism measure
Revision of Bruno-Sachs composite corporatism measure (see above).
Time invariant
Time period covered: 1950s to early 1980s
Missing countries: none
Source: Western (1997: 40–41, "labor market centralization")

Appendix B Related Indicators of Labor Organization and Wage Setting Arrangements

DENSITY
Union density
Adjusted density: the total number of union members less those who are self-employed, retired, or unemployed divided by the dependent labor force.
Varies over time – measured annually
Time period covered: 1950–1992
Missing countries: Ireland, New Zealand
Source: Golden, Wallerstein, and Lange (1997, variable = DENADJ), using data from Visser (n.d.)

COVERAGE
Union wage bargaining coverage
Unadjusted coverage rate: the number of workers covered by collective agreements divided by the dependent labor force. (For Italy the adjusted coverage rate is used, the denominator for which is the number of workers with the legal right to bargain.)
Time invariant
Time period covered: 1990 (1985 for Denmark and France)
Missing countries: Ireland
Source: Traxler (1996: 274). Data for Italy are from Golden, Wallerstein, and Lange (1997, variable = UNADJCOV).

Appendix C Additional Variables Used in the Regression Analyses

Macroeconomic Performance Indicators

Nominal wage changes	Change in compensation per employee. Source: This indicator represents year-to-year percentage change in an index of nominal wages. It corresponds to the OECD Economic Outlook variable WSSS, but these data are not directly available from the OECD. They are my calculations from nominal unit labor cost data and GDP data in OECD (1999c, database = OECD Economic Outlook, indicators = unit labor cost (ULC) and gross domestic product, volume (GDPV)). Calculated as year-to-year percentage change in [the nominal unit labor cost index multiplied by the volume GDP index]. An adjustment has been made to the figure for Germany in 1991 based on unit labor cost data in OECD (1999a: 207).
Inflation	Percentage change in the consumer price index. Source: My calculations from consumer price index data in OECD (1999c, database = Main Economic Indicators, indicator = prices → consumer price index → all items → CPI all items → index publication base).
Real wage changes	Change in compensation per employee adjusted for inflation. Source: My calculations from OECD data on change in nominal wages and inflation (see above). Calculated as year-to-year percentage change in [the nominal wage index divided by the consumer price index]. An adjustment has been made to the figure for Germany in 1991 based on unit labor cost data in OECD (1999a: 207).
Unemployment	Unemployment as a percentage of the total labor force. Source: Data for 1987 ff. are from OECD (1999b: 45). Data for years prior to 1987 are from OECD (1995).

Income Distribution and Redistribution Indicators

Earnings inequality	Ratio of earnings (gross income from employment) at the 90th percentile to earnings at the 10th percentile. Source: OECD (n.d.).
Government transfers	Social security transfers as a percentage of GDP. Source: OECD (1999b: 71).
Income inequality	Ratio of income (posttax and posttransfer) at the 90th percentile to income at the 10th percentile. Source: Luxembourg Income Study (n.d.). Data for Japan and New Zealand are from Smeeding (1998: 200).

Control Variables

Growth of real GDP	Source: My calculations from real GDP data in OECD (1999c, database = National Accounts I, indicator = gross domestic product (expenditure) in US$ – exchange rates and price levels of 1990).
Central bank independence	Composite of several commonly used measures. Source: Hall and Franzese (1998; data at http://www-personal.umich.edu/~franzese/h&f_data.TXT, variable = CBI).
Left party government	Left party cabinet portfolios as a percentage of all cabinet portfolios. Source: Swank (n.d., variable = LEFTC).
Trade	Exports plus imports as a percentage of GDP. Source: Data for 1987 ff. are my calculations from data in OECD (1999b: 75–76). Data for years prior to 1987 are my calculations from data in OECD (1995).
Government employment	Government employment as a percentage of total employment. Source: OECD (1999b: 44).
Union wage coverage	Workers covered by collective wage agreements as a percentage of the dependent labor force. (For Italy the adjusted coverage rate is used, the denominator for which is the number of workers with the legal right to bargain.) Source: Traxler (1996: 274). Data for Italy are from Golden, Wallerstein, and Lange (1997, variable = ADJCOV).
Aged	Percentage of the population age 65 and over. Source: United Nations (various years).
Unemployment	See above.

References

Alderson, Arthur S. / Francois Nielsen, 1999: Income Inequality, Development, and Dependence: A Reconsideration. In: *American Sociological Review* 64, 606–631.

Alvarez, R. Michael / Geoffrey Garrett / Peter Lange, 1991: Government Partisanship, Labor Organization, and Macroeconomic Performance. In: *American Political Science Review* 85, 539–556.

Beck, Nathaniel / Jonathan Katz / R. Michael Alvarez / Geoffrey Garrett / Peter Lange, 1993: Government Partisanship, Labor Organization, and Macroeconomic Performance: A Corrigendum. In: *American Political Science Review* 87, 945–948.

Boreham, Paul / Hugh Compston, 1992: Labour Movement Organization and Political Intervention: The Politics of Unemployment in the OECD Countries, 1974–1986. In: *European Journal of Political Research* 22, 143–170.

Bruno, Michael / Jeffrey D. Sachs, 1985: *Economics of Worldwide Stagflation*. Cambridge, MA: Harvard University Press.

Burniaux, Jean-Marc / Thai-Thanh Dang / Douglas Fore / Michael Forster / Marco Mira d'Ercole / Howard Oxley, 1998: *Income Distribution and Poverty in Selected OECD Countries.* Economics Department Working Paper no. 189. Paris: OECD.

Calmfors, Lars / John Driffill, 1988: Bargaining Structure, Corporatism, and Macroeconomic Performance. In: *Economic Policy* 6, 14–61.

Cameron, David R., 1984: Social Democracy, Corporatism, Labour Quiescence, and the Representation of Economic Interest in Advanced Capitalist Society. In: John H. Goldthorpe (ed.), *Order and Conflict in Contemporary Capitalism*. Oxford: Clarendon Press, 143–178.

Cawson, Alan (ed.), 1985: *Organized Interests and the State: Studies in Meso-Corporatism.* Beverly Hills, CA: Sage.

Compston, Hugh, 1997: Union Power, Policy Making, and Unemployment in Western Europe, 1972–1993. In: *Comparative Political Studies* 30, 732–751.

Crepaz, Marcus M. L., 1992: Corporatism in Decline? An Empirical Analysis of the Impact of Corporatism on Macroeconomic Performance and Industrial Disputes in 18 Industrialized Countries. In: *Comparative Political Studies* 25, 139–168.

Crouch, Colin, 1985: Conditions for Trade Union Wage Restraint. In: Leon N. Lindberg / Charles S. Maier (eds.), *The Politics of Inflation and Economic Stagnation*. Washington, DC: Brookings Institution, 105–139.

— —, 1993: *Industrial Relations and European State Traditions*. New York: Oxford University Press.

Ferner, Anthony / Richard Hyman (eds.), 1998: *Changing Industrial Relations in Europe*, 2nd edition. Malden, MA: Blackwell.

Flanagan, Robert J., 1999: Macroeconomic Performance and Collective Bargaining: An International Perspective. In: *Journal of Economic Literature* 37, 1150–1175.

Franzese, Jr., Robert J., 1999: The Interaction of Credibly Conservative Monetary Policy with Labor- and Goods-Market Institutions: A Review of an Emerging Literature. Unpublished. Department of Political Science, University of Michigan.

Garrett, Geoffrey / Christopher Way, 1999: Public Sector Unions, Corporatism, and Macroeconomic Performance. In: *Comparative Political Studies* 32, 411–434.

Golden, Miriam / Michael Wallerstein / Peter Lange, 1997: *Union Centralization among Advanced Industrial Societies: An Empirical Study*, version dated 11 / 2 / 98 [computer file]. Available at http: / / www.shelley.polisci.ucla.edu / data.

Hall, Peter A. / Robert J. Franzese, Jr., 1998: Mixed Signals: Central Bank Independence, Coordinated Wage Bargaining, and European Monetary Union. In: *International Organization* 52, 505–535.

Hassel, Anke / Bernhard Ebbinghaus, 2000: Concerted Reforms: Linking Wage Formation and Social Policy in Europe. Paper presented at the Conference of Europeanists, Chicago, March-April.

Hicks, Alexander, 1999: *Social Democracy and Welfare Capitalism*. Ithaca, NY: Cornell University Press.

Hicks, Alexander / Lane Kenworthy, 1998: Cooperation and Political Economic Performance in Affluent Democratic Capitalism. In: *American Journal of Sociology* 103, 1631–1672.

Hicks, Alexander / Duane Swank, 1992: Politics, Institutions, and Welfare Spending in Industrialized Democracies, 1960–1982. In: *American Political Science Review* 86, 658–674.

Huber, Evelyne / Charles Ragin / John D. Stephens, 1993: Social Democracy, Christian Democracy, Constitutional Structure, and the Welfare State. In: *American Journal of Sociology* 99, 711–749.

Iversen, Torben, 1998: Wage Bargaining, Central Bank Independence, and the Real Effects of Money. In: *International Organization* 52, 469–504.

— —, 1999: *Contested Economic Institutions*. New York: Cambridge University Press.

Iversen, Torben / Thomas R. Cusack, 2000: The Causes of Welfare State Expansion: Deindustrialization or Globalization? In: *World Politics* 52, 313–349.

Katzenstein, Peter J., 1985: *Small States in World Markets*. Ithaca, NY: Cornell University Press.

Keman, Hans, 1984: Politics, Policies, and Consequences: A Cross-National Analysis of Public Policy Formation in Advanced Capitalist Democracies (1967–1981). In: *European Journal of Political Research* 12, 147–170.

Kenworthy, Lane, 1995: *In Search of National Economic Success: Balancing Competition and Cooperation*. Thousand Oaks, CA: Sage.

— —, 1996: Unions, Wages, and the Common Interest. In: *Comparative Political Studies* 28, 491–524.

— —, 1999: Do Social-Welfare Policies Reduce Poverty? A Cross-National Assessment. *Social Forces* 77, 1119–1139.

— —, 2000: Wage Setting Coordination Scores. Unpublished. Department of Sociology, Emory University. Available at http: / / www.emory.edu / SOC / lkenworthy.

Kittel, Bernhard, 1999: Sense and Sensitivity in Pooled Analysis of Political Data. In: *European Journal of Political Research* 35, 225–253.

— —, 2000: Trade Union Bargaining Horizons in Comparative Perspective: The Effects of Encompassing Organization, Unemployment, and the Monetary Regime on Wage Pushfulness. In: *European Journal of Industrial Relations* 6, 181–202.

Korpi, Walter, 1985: Economic Growth and the Welfare State: Leaky Bucket or Irrigation System? In: *European Sociological Review* 1, 97–118.

Layard, Richard / Stephen Nickell / Richard Jackman, 1991: *Unemployment: Macroeconomic Performance and the Labor Market*. New York: Oxford University Press.

Layard, Richard / Stephen Nickell, 1994: Unemployment in the OECD Countries. In: Toshiaki Tachibanaki (ed.), *Labour Market and Economic Performance*. New York: St. Martin's Press, 253–295.

Lehmbruch, Gerhard, 1984: Concertation and the Structure of Corporatist Networks. In: John H. Goldthorpe (ed.), *Order and Conflict in Contemporary Capitalism*. Oxford: Clarendon Press, 60–80.

Lehner, Franz, 1988: The Political Economy of Distributive Conflict. In: *The Future of Party Government*. Vol. 3: *Managing Mixed Economies*. New York: Walter de Gruyter, 54–96.

Leicht, Kevin T. / J. Craig Jenkins, 1998: Political Resources and Direct State Intervention: The Adoption of Public Venture Capital Programs in the American States, 1974–1990. In: *Social Forces* 76, 1323–1345.

Lijphart, Arend / Markus M. L. Crepaz, 1991: Corporatism and Consensus Democracy in Eighteen Countries: Conceptual and Empirical Linkages. In: *British Journal of Political Science* 21, 235–256.

Luxembourg Income Study (LIS), N.d.: *LIS Percentile Ratios*. LIS website: http://www.lis.ceps.lu/percentile.htm.

McCallum, John, 1983: Inflation and Social Consensus in the Seventies. In: *Economic Journal* 93, 784–805.

——, 1986: Unemployment in the OECD Countries in the 1980s. In: *Economic Journal* 96, 942–960.

Mitchell, Daniel J., 1980: *Unions, Wages, and Inflation*. Washington, DC: Brookings Institution.

——, 1993: Keynesian, Old Keynesian, and New Keynesian Wage Nominalism. In: *Industrial Relations* 32, 1–29.

Nickell, Stephen, 1997: Unemployment and Labor Market Rigidities: Europe versus North America. In: *Journal of Economic Perspectives* 11(3), 55–74.

OECD (Organization for Economic Cooperation and Development), 1994: *OECD Jobs Study*. Paris: OECD.

——, 1995: *OECD Historical Statistics: 1960–1993* (diskette version). Paris: OECD.

——, 1997: Economic Performance and the Structure of Collective Bargaining. In: *OECD Employment Outlook: July 1997*. Paris: OECD, 63–93.

——, 1999a: *OECD Economic Outlook: December 1999*. Paris: OECD.

——, 1999b: *OECD Historical Statistics: 1960–1997*. Paris: OECD.

——, 1999c: *OECD Statistical Compendium*, ed. 02#1999 [computer file]. Paris: OECD [producer and distributor].

——, N.d.: *OECD Database on Trends in Earnings Dispersion* [computer file]. Paris: OECD [producer and distributor].

Olson, Mancur, 1982: *The Rise and Decline of Nations*. New Haven, CT: Yale University Press.

Paloheimo, Heikki, 1984: Distributive Struggle and Economic Development in the 1970s in Developed Capitalist Countries. In: *European Journal of Political Research* 12, 171–190.

Pennings, Paul / Noel P. Vergunst, 2000: The Dynamics of Corporatist Institutions: Measurements and Linkages. Unpublished. Department of Political Science and Public Administration, Vrije Universiteit Amsterdam.

Pizzorno, Alessandro, 1978: Political Exchange and Collective Identity in Industrial Conflict. In: Colin Crouch / Alessandro Pizzorno (eds.), *The Resurgence of Class Conflict in Western Europe since 1968*. Vol. 2. London: Macmillan, 277–298.

Pochet, Philippe / Giuseppe Fajertag (eds.), 1997: *Social Pacts in Europe*. Brussels: European Trade Union Institute.

Regini, Mario, 2000: Between Deregulation and Social Pacts: The Responses of European Economies to Globalization. In: *Politics and Society* 28, 5–33.

Rowthorn, Bob, 1992: Corporatism and Labour Market Performance. In: Jukka Pekkarine / Matti Pohjola / Bob Rowthorn (eds.), *Social Corporatism*. New York: Oxford University Press, 82–131.

Rubin, Beth A., 1986: Class Struggle, American Style: Unions, Strikes, and Wages. In: *American Sociological Review* 51, 618–631.

Rueda, David / Jonas Pontusson, 2000: Wage Inequality and Varieties of Capitalism. In: *World Politics* 52, 350–383.

Scharpf, Fritz W., 1987 (1991): *Crisis and Choice in European Social Democracy*. Ithaca, NY: Cornell University Press.

Schmidt, Manfred, 1982: Does Corporatism Matter? Economic Crisis, Politics, and Rates of Unemployment in Capitalist Democracies in the 1970s. In: Gerhard Lehmbruch / Philippe C. Schmitter (eds.), *Patterns of Corporatist Policy-Making*. Beverly Hills, CA: Sage, 237–258.

Schmitter, Philippe C., 1974: Still the Century of Corporatism? In: *Review of Politics* 36, 85–131.

——, 1981: Interest Intermediation and Regime Governability in Contemporary Western Europe and North America. In: Suzanne D. Berger (ed.), *Organizing Interests in Western Europe*. New York: Cambridge University Press, 285–327.

——, 1982: Reflections on Where the Theory of Neo-Corporatism Has Gone and Where the Praxis of Neo-Corporatism May Be Going. In: Gerhard Lehmbruch / Philippe C. Schmitter (eds.), *Patterns of Corporatist Policy-Making*. London: Sage, 259–279.

Schmitter, Philippe C. / Wolfgang Streeck, 1999: *The Organization of Business Interests: Studying the Associative Action of Business in Advanced Industrial Societies.* MPIfG Discussion Paper 99 / 1. Max Planck Institute for the Study of Societies. Cologne: Max Planck Institute for the Study of Societies.

Shalev, Michael, 1978: Lies, Damned Lies, and Strike Statistics: The Measurement of Trends in Industrial Conflict. In: Colin Crouch / Alessandro Pizzorno (eds.), *The Resurgence of Class Conflict in Western Europe since 1968*. Vol. 1. London: Macmillan, 1–19.

Siaroff, Alan, 1999: Corporatism in 24 Industrial Democracies: Meaning and Measurement. In: *European Journal of Political Research* 36, 175–205.

Smeeding, Timothy M., 1998: U.S. Income Inequality in a Cross-National Perspective: Why Are We So Different? In: Richard S. Belous (ed.), *The Inequality Paradox*. Washington, DC: National Policy Association, 194–217.

Smith, Michael R., 1992: *Power, Norms, and Inflation*. New York: Aldine de Gruyter.

——, 2000: Doing Well by Doing Good? What Happened to Corporatist Countries in the 1990s, and Why? Unpublished. Department of Sociology, McGill University.

Soskice, David, 1990: Wage Determination: The Changing Role of Institutions in Advanced Industrialized Countries. In: *Oxford Review of Economic Policy* 6(4), 36–61.

Stephens, John. D., 1979: *The Transition from Capitalism to Socialism*. Urbana: University of Illinois Press.

Streeck, Wolfgang / Philippe C. Schmitter, 1991: From National Corporatism to Transnational Pluralism: Organized Interests in the Single European Market. In: *Politics and Society* 19, 133–164.

Swank, Duane, N.d.: 18-Nation Pooled Time-Series Data Set: Strength of Political Parties by Ideological Group in Advanced Capitalist Countries [computer file]. Available at http: / / www.marquette.edu / polisci / Swank.htm.

——, 2000: Political Institutions and Welfare State Restructuring. In: Paul Pierson (ed.), *The New Politics of the Welfare State*. New York: Oxford University Press.

Swank, Duane / Cathie Jo Martin, 2000: Employers and the Welfare State: The Political Economic Organization of Firms and Social Policy in Contemporary Capitalist Democracies. Unpublished. Department of Political Science, Marquette University.

Teullings, Coen / Joop Hartog, 1998: *Corporatism or Competition? Labour Contracts, Institutions, and Wage Structures in International Comparison*. New York: Cambridge University Press.

Therborn, Göran, 1987: Does Corporatism Really Matter? The Economic Crisis and Issues of Political Theory. In: *Journal of Public Policy* 7, 259–284.

Traxler, Franz, 1996: Collective Bargaining and Industrial Change: A Case of Disorganization? A Comparative Analysis of Eighteen OECD Countries. In: *European Sociological Review* 12, 271–287.

——, 1999: The State in Industrial Relations: A Cross-National Analysis of Developments and Socioeconomic Effects. In: *European Journal of Political Research* 36, 55–85.

Traxler, Franz / Sabine Blaschke / Bernhard Kittel: *National Labor Relations in Internationalized Markets*. New York: Oxford University Press (forthcoming).

Traxler, Franz / Bernhard Kittel, 2000: The Bargaining System and Performance: A Comparison of 18 OECD Countries. In: *Comparative Political Studies*, forthcoming.

United Nations (UN), various years: *Demographic Yearbook*. New York: UN.

Visser, Jelle, N.d.: *Trade Union Membership Database* [computer file]. Unpublished.

Visser, Jelle / Anton Hemerijck, 1997: *"A Dutch Miracle": Job Growth, Welfare Reform, and Corporatism in the Netherlands*. Amsterdam: Amsterdam University Press.

Wallerstein, Michael, 1999: Wage-Setting Institutions and Pay Inequality in Advanced Industrial Societies. In: *American Journal of Political Science* 43, 649–680.

Western, Bruce, 1997: *Between Class and Market: Postwar Unionization in the Capitalist Democracies*. Princeton, NJ: Princeton University Press.

Wolff, Edward N., 1996: The Productivity Slowdown: The Culprit at Last? In: *American Economic Review* 86, 1239–1252.